

SCOLIOSIS RESEARCH SOCIETY

# 51<sup>ST</sup> ANNUAL MEETING & COURSE



SEPTEMBER 21-24, 2016  
PRAGUE CONGRESS CENTRE

[WWW.SRS.ORG](http://WWW.SRS.ORG)



SPONSORED BY THE SCOLIOSIS RESEARCH SOCIETY

# EVOLVING POSTERIOR FIXATION TECHNOLOGY WITHIN THE iGA™ PLATFORM.



The Reline® portfolio is the evolution of posterior fixation technology within the iGA platform, providing integrated Open and MAS® procedural solutions. Whether preserving or restoring spinal alignment, the seamless and versatile design of Reline provides one system to address even the most difficult pathologies.

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Global  
Alignment



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## Dates To Remember

Registration & Housing Open	April 15, 2016
Advance Registration Deadline:	August 15, 2016
Housing Reservation Deadline:	August 26, 2016
Registration Cancellation Deadline:	September 1, 2016

### 51<sup>st</sup> Annual Meeting & Course Venue

Prague Congress Centre  
5. kvetna 65  
140 21 Prague 4, Czech Republic

### Future Educational Events

7<sup>th</sup> Spine Deformity Solutions: A Hands-On Course  
October 28-30, 2016  
Hong Kong, China

24<sup>th</sup> International Meeting on Advanced Spine Techniques  
July 12-15, 2017  
Cape Town, South Africa

52<sup>nd</sup> Annual Meeting & Course  
September 6-9, 2017  
Philadelphia, Pennsylvania, USA

### Worldwide Conferences

#### Nottingham, England

*Regional Course in Conjunction with Britspine*  
April 6-8, 2016

#### Nanjing, China

*In Conjunction with Chinese SRS*  
April 8-10, 2016

#### Moscow, Russia

*In Conjunction with the Russian Congress of Spine Surgery*  
May 27-28, 2016

#### Bali, Indonesia

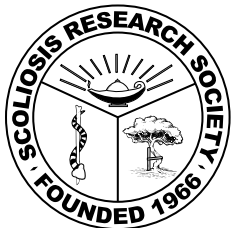
*In Conjunction with the Indonesian Spine Society*  
August 11-12, 2016

#### Santiago, Chile

*In Conjunction with the Chilean Spine Society*  
November 16-17, 2016

#### Kyoto, Japan

*In Conjunction with the Japanese Spine Society*  
November 17-19, 2016



### SRS Executive Office

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## Annual Meeting Committees

### 2016 Local Organizing Host

Martin Repko, MD, PhD

### Education Committee

Theodore T. Choma, MD, Chair  
 Sigurd H. Berven, MD, Past Chair  
 Praveen Mummaneni, MD, Chair Elect  
 Justin S. Smith, MD, PhD  
 Lawrence L. Haber, MD  
 Mark Weidenbaum, MD  
 Marinus de Kleuver, MD, PhD  
 Eric J. Belin, MD  
 Santiago T. Bosio, MD  
 Kai Cao, MD, PhD  
 Jonathan J. Carmouche, MD  
 Scott C. Nelson, MD  
 Naveed Yasin, FRCS (Tr & Ortho)  
 Nathan H. Lebowitz, MD  
 Cristina Sacramento Dominguez, MD, PhD  
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 Richard H. Gross, MD  
 Yan Wang, MD  
 Charles H. Crawford III, MD  
 Paul T. Rubery, MD  
 Suken A. Shah, MD

### Program Committee

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 Ronald A. Lehman, Jr, MD, Past Chair  
 Muharrem Yazici, MD, Chair Elect  
 Benny T. Dahl, MD, PhD, DMSci  
 James F. Mooney, III, MD  
 Lawrence L. Haber, MD  
 John M. Caridi, MD  
 Michael P. Kelly, MD  
 Han Jo Kim, MD  
 Joshua M. Pahys, MD  
 Themistocles S. Protopsaltis, MD  
 Fernando Techy, MD  
 David W. Gray, MD  
 Tyler Koski, MD  
 Yong Qiu, MD  
 Gregory M. Mundis, Jr., MD

### 2016 Program Reviewers

Shay Bess, MD  
 Douglas C. Burton, MD  
 Samuel K. Cho, MD  
 William F. Donaldson, III, MD  
 Robert N. Dunn, FCS (SA) Orth  
 Robert K. Eastlack, MD  
 Mohammad El-Sharkawi, MD  
 Michael J. Goytan, MD, FRCSC  
 Eric O. Klineberg, MD  
 Panagiotis Korovessis, MD, PhD  
 A. Noelle Larson, MD  
 John P. Lubicky, MD, FAAOS, FAAP  
 Jwalant Mehta, FRCS(Orth)  
 Matthew E. Oetgen, MD  
 Timothy S. Oswald, MD  
 Stefan Parent, MD, PhD  
 Howard M. Place, MD  
 Juan Carlos Rodriguez, MD, PhD  
 Michael Ruf, MD  
 Amer F. Samdani, MD  
 Vishal Sarwahi, MD  
 Suken A. Shah, MD  
 Fernando E. Silva, MD  
 Vincent C. Traynelis, MD  
 William Warner, MD



## Welcome Letter

Dear Colleagues,

As the 2016 Local Organizing Host, I would like to invite you to attend the 51<sup>st</sup> Annual Meeting & Course in Prague, Czech Republic, September 21-24, 2016. Join us in this beautiful and historic city which is easily accessible from all of Europe's major hubs. No matter where you travel through to get here, the experience promises to be unforgettable.

The Program and Education Committees have worked very hard to present another exceptional program. The meeting will take place at the Prague Congress Centre. This international meeting venue with more than 50 halls, reception and meeting rooms boasts several nearby hotels and is adjacent to the Vyšehrad metro station, providing easy transportation to the heart of the city where you will find countless opportunities for dining, site seeing and entertainment.

The Opening Ceremonies on Wednesday, September 21 will feature a presentation by Prince William Lobkowicz on the culture and history of Prague. You should also plan to attend the Pre-Meeting Course on Wednesday morning; which will feature a diverse selection of SRS members speaking on "Complications and Risk Stratification in Deformity Surgery - An Evidence Based Approach." The Farewell Reception on Friday, September 23, will be held at the Zofin Palace, located on Slavonic Island in the Vltava River, which runs through Prague's City Centre.

If you are lucky enough to extend your trip to Prague, I invite you to explore the many architectural monuments, cultural heritage and historical sites that make Prague a unique and unforgettable city.

I hope to welcome you to Prague for the 51<sup>st</sup> Anniversary of the Annual Meeting & Course.

Martin Repko, MD, PhD



## Annual Meeting Invited Lectures & Award Recipients

### Wednesday, September 21, 2016

#### Howard Steel Lecture

##### Prince William Lobkowicz



William Lobkowicz was born in Boston, Massachusetts. He studied European history and music, graduating from Harvard University in 1984. He worked for six years in banking and real estate. After watching the breakup of Communism in 1989, he decided to move back to Czechoslovakia permanently in 1990.

The Lobkowicz family traces its ancestry back over seven centuries as Princes of the Holy Roman Empire and High Chancellors of the Kingdom of Bohemia. They were patrons of the arts, most notably of Beethoven, who dedicated the 3rd (Eroica), 5th and 6th (Pastoral) Symphonies to Lobkowicz. The family has been at the forefront of Czech history throughout the centuries serving as patrons and imperial councilors, soldiers and diplomats. Since returning to Bohemia, William has been responsible for reclaiming his family's philanthropic heritage and managing these assets. He created the Lobkowicz Collections Foundation and L.E. Holdings, a family real estate and asset management firm. He also founded in the mid-1990's Lobkowicz Events Management, an event and destination management company that manages and operates four family castles in the Czech Republic. The family also owns and operates a 400 year old family winery near Prague that produces award winning wines. More information is available at [www.lobkowicz.com](http://www.lobkowicz.com).

William is active in several business and cultural associations. He has received several awards and recognitions for his efforts in advancing Czech cultural heritage. William works closely with his wife, Alexandra, on all aspects of the family's numerous cultural, philanthropic and business interests. They have three children.

#### Walter P. Blount Humanitarian Award Recipient

Presented for outstanding service to those with spinal deformity, and for generosity to the profession and Society.

TO BE ANNOUNCED

### Thursday, October 1, 2015

#### Harrington Lecture

##### Behrooz A. Akbarnia, MD



Behrooz Akbarnia graduated from Tehran University Medical School in 1966, and then moved to the United States in 1968 to continue his training in Orthopaedic Surgery. Following his residency at the Albany Medical Center, he completed a Scoliosis and Spine Fellowship under the legendary Dr. John Moe and colleagues at the Twin

Cities Scoliosis Center. Dr. Akbarnia became Professor and Vice Chairman of Orthopaedic Surgery at St. Louis University before relocating to San Diego in 1990. There, he established his academic practice, created the San Diego Spine Fellowship Program, and founded both the San Diego Spine Foundation and the Growing Spine Foundation to support academic activities. He is also a founder of the International Spine Study Group (ISSG).

Dr. Akbarnia belongs to numerous professional organizations and has served as president in several, including the SRS in 2006. His SRS-related activities include perfect attendance for 40 years; chairing 10 of 14 committees served; and participation on the Board of Directors for 13 years as member, treasurer, and on the presidential line. He has also contributed to the SRS endowment at the Shands Platinum level. He is the recipient of the SRS Lifetime Achievement Award, SRS Walter P. Blount Humanitarian Award and Lifetime Service Awards from the American Academy of Pediatrics and the Western Orthopaedic Association.

Dr. Akbarnia's most recent work has focused on Early Onset Scoliosis (EOS) and growing spine. Through Growing Spine Study Group, establishing the ICEOS meeting and publishing the Growing Spine textbook, he has significantly affected the lives of patients with EOS. He also helped in the development and popularization of a new magnetic device for young children. His research comprises over 200 papers in peer-reviewed journals; many book chapters, and international presentations. However, his greatest satisfaction comes from his mentorship to countless fellows and visitors in the spine deformity field.

Dr. Akbarnia currently is Clinical Professor at the Department of Orthopaedic Surgery, University of California, San Diego, and Medical Director Emeritus of San Diego Center for Spinal Disorders. He has been married to his wife, Nasrin, for 48 years; they have three children, Halleh, Ladan, and Ramin, and are proud grandparents to Simia, Kian, Leila, and Luca.

#### Lifetime Achievement Award Recipients

Presented to a member who has exhibited long and distinguished service to SRS and to spinal deformity research and care.

TO BE ANNOUNCED

## General Meeting Information

### Meeting Description

The Scoliosis Research Society (SRS) Annual Meeting & Course is a forum for the realization of the Society's mission and goals, the improvement of patient care for those with spinal deformities. Over 125 papers will be presented on an array of topics, including adolescent idiopathic scoliosis, growing spine, kyphosis, adult deformity, trauma, neuromuscular scoliosis and tumors.

### Learning Objectives

#### Annual Meeting Objectives:

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

- Detect factors which may contribute to higher complication rates, including non-union and risk of reoperation, and incorporate pre-and peri-operative steps that help to avoid complications in spinal deformity surgery.
- Assess clinical and radiographic factors that contribute to positive or negative outcomes in spinal deformity surgery and utilize this knowledge to prevent adverse outcomes.
- Describe new techniques for the treatment of patients with spinal deformity.
- Identify the short and long-term effect of fusion for patients with spinal deformity using a variety of correction strategies and implants.
- Identify metrics that describe safety and value during spinal deformity care.

#### Pre-Meeting Course Objectives:

As a result of participating in this activity, participants should be able to:

- Describe what risk stratification is and how it can impact patient care
- Identify predictors of outcomes and implement them in their care plans
- Utilize information about cost in developing strategies to optimize cost effective care.

### Target Audience

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

### Accreditation Statement

This activity 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 this live activity for a maximum of 27.5 credits (7.75 for Pre-Meeting Course, 19.75 for Annual Meeting) *AMA PRA Category 1 Credit(s)*<sup>TM</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### 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.

### 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.

### Video Recording Prohibited

SRS does not allow personal video recording of the presentations of any kind. SRS holds the right to confiscate any and all recording taken of any of the presentations. All session rooms will be recorded and will be available to delegates after the meeting on the SRS website.

### Insurance/Liabilities and Disclaimer

SRS will not be held liable for personal injuries or for loss or damage to property incurred by participants or guests at the Annual Meeting & Course including those participating in tours and social events. Participants and guests are encouraged to take out insurance to cover loss incurred in the event of cancellation, medical expenses or damage to or loss of personal effects when traveling outside of their own countries.

SRS cannot be held liable for any hindrance or disruption of the Annual Meeting & Course proceedings arising from natural, political, social or economic events or other unforeseen incidents beyond its control. Registration of a participant or guest implies acceptance of this condition.

The materials presented at this Continuing Medical Education activity are made available for educational purposes only. The material is not intended to represent the only, nor necessarily best, methods or procedures appropriate for the medical situations discussed, but rather is intended to present an approach, view, statement, or opinion of the faculty that may be helpful to others who face similar situations.

## General Meeting Information

SRS disclaims any and all liability for injury or other damages resulting to any individual attending a scientific meeting and for all claims that may arise out of the use of techniques demonstrated therein by such individuals, whether these claims shall be asserted by a physician or any other person.

### Language

Presentations and course materials will be provided in English.

### No Smoking Policy

Smoking is not permitted during any Annual Meeting activity or event.

### Attire

Business (suits) or business casual attire (polo or dress shirt, sport coats) are appropriate for Annual Meeting & Course sessions; ties are not required. Cocktail dress is recommended for the Farewell Reception.

### Members Business Meetings

All SRS members are invited to the Member's Business Meetings, held Thursday, September 22 through Saturday, September 24 from 6:30 – 7:45am. Agendas will include reports from the various SRS committees, presentations by the 2016 Travelling Fellows and Edgar Dawson Scholarship recipients, and updates on SRS activities and programs. A hot breakfast buffet will be served.

### Non-Members Continental Breakfast

All non-members are invited to meet with their colleagues, view E-Posters and network over coffee and a continental breakfast served Thursday, September 22 through Saturday, September 24 from 6:30 – 7:45am.

### Guest Hospitality Suite

Registered guests of Annual Meeting & Course delegates are welcome to meet and plan their days over a continental breakfast, courtesy of SRS. The Guest Hospitality Suite is open Thursday, September 22 through Saturday, September 24 from 7:30 – 10:00am at the Corinthia Hotel. Please refer to page 11 for complete information. Guests must be registered with SRS to access the Hospitality Suite.



## Location Information

### About Prague

Prague, The City of a Hundred Spires on the Vltava River, is known to people from all over the world and ranks among the most beautiful cities in Europe. Prague is not only rich in architectural monuments, cultural heritage and historical sites, but is also modern and dynamic. In Prague, beauty and history join together to make a unique and unforgettable city.

The Historic Center of Prague, built between the 11<sup>th</sup> and 18<sup>th</sup> centuries and comprised of the Old Town, the Lesser Town and the New Town, is included on the UNESCO list of World Heritage Sites. Through the 1100 years of its existence, Prague has undergone tremendous cultural, social and economic development, which is reflected in the city's numerous monuments from all periods of its history and architecture representing many historical periods and styles, including the early middle ages, gothic period and high baroque period. The Prague Castle, Hradčany Square in front of the Castle, the Cathedral of St. Vitus, the Valdštejn Palace, the Charles Bridge, the Gothic houses of the Old Town Square are only a few of the many notable places to visit while in Prague.

The parks, museums, castles, cathedrals and the little towns that make up the city, are steeped in culture and tradition and reflect the changes that Prague has experienced over the centuries.

### Arriving in Prague

Václav Havel Airport Prague (PRG) is modern, efficient and passenger friendly. PRG was voted the best airport in Eastern Europe in 2005, 2007, and 2009 and holds the prestigious IATA Eagle Award for the Most Deserving Airport 2011. The airport hosts an average of 11 million passengers per year, with 58 airlines serving 121 destinations in 43 countries. The airport is located 20 kilometers (12.5 miles) and approximately 30 minutes from the Prague City Center and can be reached by taxi, shuttle or public transportation.

### Prague Metro System

Aside from buses and trams, the Prague Metro system is the most used means of transportation in Prague. The underground network is divided into three lines: Line A= green, Line B= yellow and Line C= red. The metro operates daily from 5:00am – midnight. The metro is an open ticket system, which means there are no turnstiles. Passengers must buy and validate a ticket before entering the metro platform. Additional information can be found by visiting the Prague Metro System website at [www.dpp.cz/en/](http://www.dpp.cz/en/).

The Prague Congress Centre is located next to the Vysehrad station on the C/red line and is two stops away from Wenceslas Square, the heart of the New Town in the Prague City Center.

### Passports and Visas

Visitors from the EU require passports or other valid forms of identification to enter the country. This also applies to visitors from Iceland, Lichtenstein, Norway and Switzerland.

Visitors from other countries will require passports that must be valid for six months post the date of arrival in the Czech Republic. Some visitors will require visas. Citizens from countries that will require a visa to enter the Czech Republic can be found by visiting [http://www.mzv.cz/jnp/en/information\\_for.aliens/general\\_visa\\_information/index.html](http://www.mzv.cz/jnp/en/information_for.aliens/general_visa_information/index.html)

In 2007, the Czech Republic signed the Schengen agreement. Inhabitants of the Schengen countries can move freely within the Schengen area without having to go through border checkpoints. However, they still must have their passports or identification cards with them when travelling.

### Fall Weather in Prague

Prague will leave the heat of the summer months behind as it fades into fall. The daytime temperatures will be mild while the evenings will be cooler. You'll want to pack a mixture of clothing to ensure your comfort during your visit.

Average high temperature in September: 22° C, 65° F

Average low temperature in September: 9° C, 48° F

Overall: 14° C, 57° F

Annual precipitation: 39mm

Sunshine Hours: 8 hours

### Electricity

Europe operates on 220 volts, compared to the standard 120 volts in the United States.

### Time Zone

Prague is in the CET - Central European Time Zone. From March 27 - October 30 Prague is in CEST - Central European Summer Time, which is two (2) hours ahead of Greenwich Mean Time and is six (6) hours ahead of U.S. Eastern Daylight Time (EDT).

## Registration Information

### Dates to Remember

Registration Open	April 15, 2016
Advance Registration Deadline	August 15, 2016

SRS encourages online registration for the Annual Meeting & Course at [www.srs.org/am16/registration](http://www.srs.org/am16/registration). However, delegates and guests may also register by completing and mailing or faxing the registration form on page 39. All registrations will be confirmed via email. If you do not receive an email confirmation within two weeks of submission, please contact SRS at +1-414-289-9107 or [meetings@srs.org](mailto:meetings@srs.org).

### Registration Procedures

Registration Class	Section 1			Section 2	
	Option 1	Option 2	Option 3	A La Carte	
	<b>**All CME Sessions**</b> Annual Meeting & Course with Half-Day Course Wed-Sat, Sept. 21-24	Annual Meeting & Pre-Meeting Course Wed-Sat, Sept. 21-24	Annual Meeting Thurs-Sat, Sept. 22-24	Hibbs Society Tues, Sept 20. 1:00-5:00pm	Farewell Reception Fri, Sept. 23 7:00-10:00pm
SRS Fellow- Physician	<input type="checkbox"/> \$ 1030	<input type="checkbox"/> \$ 1000	<input type="checkbox"/> \$ 750	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
SRS Fellow- Non-Physician	<input type="checkbox"/> \$ 580	<input type="checkbox"/> \$ 550	<input type="checkbox"/> \$ 300	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
SRS Emeritus Fellow	<input type="checkbox"/> \$ 580	<input type="checkbox"/> \$ 550	<input type="checkbox"/> \$ 300	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
Non-Member Physician	<input type="checkbox"/> \$ 1230	<input type="checkbox"/> \$ 1200	<input type="checkbox"/> \$ 950	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
Non-Member Non-Physician	<input type="checkbox"/> \$ 630	<input type="checkbox"/> \$ 600	<input type="checkbox"/> \$ 350	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
Resident/ Fellow/ Medical Student	<input type="checkbox"/> \$ 530	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 350	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
Industry Representative	<input type="checkbox"/> \$ 1280	<input type="checkbox"/> \$ 1250	<input type="checkbox"/> \$ 1000	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25
Reduced Rate Countries**	<input type="checkbox"/> \$ 530	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 350	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25

### What's Included?

#### Base Registration Fees – Section 1

##### Option 1. Annual Meeting & Course with Half-Day Course

###### **\*\*All CME Sessions\*\***

Option 1 runs from Wednesday, September 21 to Saturday, September 24 and includes admission to all general and concurrent scientific sessions, the Pre-Meeting Course on Wednesday, September 21, lunchtime symposia, breakfast, breaks, lunches, Half-Day Course on Thursday, September 22 and Welcome Reception & Opening Ceremonies on Wednesday, September 21. **This includes admittance to the Pre-Meeting Course on Wednesday, September 21 and Half-Day Course on Thursday, September 22.**

##### Option 2. Annual Meeting & Course

Option 2 runs from Wednesday, September 21 to Saturday, September 24 and includes admission to all general and concurrent scientific sessions, the Pre-Meeting Course on Wednesday, September 21, lunchtime symposia, breakfast, breaks, lunches and Welcome Reception & Opening Ceremonies on Wednesday, September 21. **This includes admittance to the Pre-Meeting Course on Wednesday, September 21. This DOES NOT include admittance to the Half-Day Course on Thursday, September 22.**

##### Option 3. Annual Meeting Only

The Annual Meeting runs from Thursday, September 22 to Saturday, September 24 and includes admission to all general and concurrent scientific sessions, lunchtime symposia, breakfast, breaks, lunches and Welcome Reception & Opening Ceremonies on Wednesday, September 21. **This DOES NOT include admittance to the Pre-Meeting Course on Wednesday, September 21 or the Half-Day Course on Thursday, September 22.**

to the Pre-Meeting Course on Wednesday, September 21 or the Half-Day Course on Thursday, September 22.

*\*Any base registration selected in section 1 includes entrance to the general and concurrent scientific sessions, lunchtime symposium, breakfasts, breaks, lunches and the Welcome Reception & Opening Ceremonies on Wednesday, September 21.*

#### A la Carte Options – Section 2

The following items may be added to the base registration for an additional fee. It is recommended these items be added during initial registration, as delegates will not be able to edit their registration online at a later time.

##### Farewell Reception

Open to all registered delegates and registered guests. Tickets are \$25 each and should be purchased in advance. A limited number of tickets may be available onsite, but SRS strongly urges delegates to purchase tickets at the time of registration.

The Farewell Reception will take place at the Zofin Palace from 7:00-10:00pm on Friday, September 23.

##### Hibbs Society

The Hibbs Society Meeting will take place on Tuesday, September 20 from 1:00-5:00pm.

**Please note base registration costs will increase \$100 per registration class on-site!**

## Registration Information

### Reduced Rate Countries Registration

Visit [www.srs.org/am16/registration](http://www.srs.org/am16/registration) for a list of countries that qualify for reduced rate registration. Reduced rate registration is now available online. Delegates may also register using the PDF form.

### Invitation Letters

Invitations letters for visa requests are available for registered delegates by contacting [meetings@srs.org](mailto:meetings@srs.org).

### Substitutions

Name substitutions must be made to SRS in writing prior to August 15, 2016. Any name substitutions made onsite will result in a \$100 processing fee. If the original registrant shows up at the meeting, he/she will be responsible for a new onsite registration fee.

### Cancellations & Refunds

All cancellations must be received in writing. Delegates may fax their cancellation to (414) 276-3349 or email it to [meetings@srs.org](mailto:meetings@srs.org). Delegates will receive a confirmation and refund within 14 days of receipt of their cancellation notice. SRS will grant a full refund, less a 10% processing fee, for cancellations received in writing on or before September 1, 2016. No refunds will be granted after September 1, 2016.

### Guest Attendance

#### Guest Attendance (Does not include session admittance.)

Guests must complete and submit a separate registration form. Guest registration fees include access to the Guest Hospitality Program, entrance to the Welcome Reception on Wednesday, September 21 and the ability to register for social events including optional tours and the Farewell Reception, for additional fees. An additional \$25 charge applies for each ticket to the Farewell Reception on Friday, September 23. For more information regarding the optional tours and the prices please click on the Tours Tab of the Annual Meeting website at [www.srs.org/am16](http://www.srs.org/am16). Entrance to the scientific sessions is not included in guest registration fees. Only guests registered as Non-Member Non-Physicians will be allowed to participate in above scientific sessions and breaks. Sorry, no exceptions will be made.

#### Guest Attendance (Includes session admittance.)

Guests wishing to attend the Scientific Program should register as Non-Member Non-Physicians by filling out a separate Registration Form. Guests that register as a Non-Member Non-Physician will receive entrance to the General and Concurrent Scientific Sessions, Lunchtime Symposia, breakfasts, breaks, lunches, and the Welcome Reception on Wednesday, September 21. An additional \$25 charge applies for each ticket to the Farewell Reception on Friday, September 23. Optional tours may also be added for additional fees, as indicated.

### Wire Transfers

You may also pay for your Annual Meeting & Course registration through a wire transfer. Please note that some financial institutions charge a processing fee, which is deducted from the amount of the transfer. Partial payment may result in an incomplete registration. If you wish to pay with a wire transfer, please contact the SRS office for more information.

### Social Events

#### Opening Ceremonies

Wednesday, September 21, 2016  
6:30-9:30pm

Open to all registered delegates and their registered guests at no additional fee. Name badges are required.

The Annual Meeting will officially begin with the Opening Ceremonies and this year's Howard Steel Lecture, presented by William Lobkowicz. The evening will include an introduction of the SRS officers. All delegates and registered guests are invited and encourage to attend the Opening Ceremonies. Following the Opening Ceremonies, we will move to a hosted reception featuring heavy hors d'oeuvres, cocktails, and plenty of lively conversations and reunions with colleagues and friends.

The Welcome Reception is supported, in part, by grants from NuVasive and Medtronic.

#### Farewell Reception

Friday, September 23, 2015  
7:00-10:00pm

Open to all registered delegates and registered guests. Tickets are \$25 each and should be purchased in advance. A limited number of tickets may be available onsite but SRS strongly urges delegates and guests to purchase tickets at the time of registration. Name badges are required. Cocktail dress is appropriate for the Farewell Reception.

The 51<sup>st</sup> Annual Meeting & Course will culminate with a cultural experience at the Zofin Palace, located on Slavonic Island in the Vltava River, which runs through Prague's City Center. Built in the 1835, the original neoclassical brick structure, was named after the mother of Emperor Franz Joseph I, Princess Sophie, Žofie in Czech. Beginning in 1884, the building was restored to the neo-renaissance palace that it is today.

## Optional Tours & Activities

### Optional Tours

The following tours are available to registered delegates and guests through Dekon, our partners in Prague. All tour reservations must be made directly on the Dekon website, accessible on the Tours tab of the Annual Meeting website (<http://www.srs.org/meetings/am16/social-events-tours/>). Any questions regarding registration or tour details should be directed to Dekon at [srs@dekon.com.tr](mailto:srs@dekon.com.tr)

All tours depart and return to the Corinthia Hotel.

Tour Name	Duration	Transportation	Days & Times	Price/person
Grand City Tour	3.5 hours	Bus + foot	Daily - 9:45; 14:30	720 CZK
Informative Prague Tour	2 hours	Bus + foot	Daily - 11:00; 13:30; 16:15	450 CZK
City & Boat Tour	3.5 hours	Bus + boat + foot	Daily - 11:00	780 CZK
Unlimited (All Inclusive) Tour	6.5 hours	Bus + boat + foot	Daily - 10:00	1200 CZK
Prague Castle Tour	3.5 hours	Bus + foot	Daily - 11:30	900 CZK
Folklore Party	4 hours	Bus	Thurs., Sept. 22 & Fri., Sept. 23 – 19:00	1300 CZK

### Tour Information

#### Grand City Tour

During this tour you are going to see all of the most interesting historical sights of Prague – the Municipal House, Wenceslas Square, the National Museum, Charles Square followed by a ride along the beautiful riverside, across the River Vltava to Prague Castle. By walk you will return to the city center to the Old Town Square. Here you can admire the Tyn Church, St. Nicholas Church and the Astronomical clock on the Old Town Hall where the tour terminates.

Duration: 3.5 hours  
Transportation: Bus + foot  
Price: 720 CZK  
Offered Daily  
Departure times: 9:45; 14:30

#### Informative Prague Tour

With Headphones - available in 25 languages!

Accept our invitation for a two hours tour of Prague. From our luxurious open panoramic bus you will admire the most famous sights of the Old and the New Town, the Prague Castle (30 – 40 free time) and the Jewish Quarter Josefov. The tour ends in the city center.

Duration: 2 hours  
Transportation: Bus + foot  
Price: 450 CZK  
Offered Daily  
Departure times: 11:00; 13:30; 16:15

#### City & Boat Tour

This tour will provide you with an overall coverage of the historical sites in “the city of a hundred spires.” You will be able to see the most important parts of the city during a coach ride of about 1 hour.

This will be followed by a boat trip on the River Vltava. During your boat trip tea/coffee or a soft drink will be provided. The boat ride starts and finishes by Charles Bridge and a walking tour of Charles Bridge ensues. The tour terminates at Charles Bridge.

Duration: 3.5 hours  
Transportation: Bus + boat + foot  
Price: 780 CZK  
Offered Daily  
Departure times: 11:00

#### Unlimited (All Inclusive) Tour

Best Deal – Walking Tour, Bus City Tour, Boat Cruise, Prague Castle, Lunch, Free Drink – Famous Pilsner Urquell

We offer a combined, comprehensive city tour of Prague. You will see our capital city from many perspectives. We will start our walking tour at the Old Town, which includes a unique Jewish part. Then we can expect a 20 minute minibus tour through the downtown to the Prague Castle, followed by a walking tour and a short break for lunch. The walking tour continues along Nerudova Street, through the Lesser Town to the Charles Bridge, where we can enjoy a short Vltava river cruise on a boat. After the boat cruise we will cross the Charles Bridge and will go back to the Old Town and here, in the largest Hard Rock Cafe in Europe, you will enjoy a free drink to finish the tour. So many options in the only one visit, it is the right choice.... Let's go!

Duration: 6.5 hours  
Transportation: Bus + boat + foot  
Price: 1200 CZK  
Offered Daily  
Departure times: 10:00



## Optional Tours & Activities

### Prague Castle Tour

Our guide will take you by coach to Prague Castle. During this tour of the interiors of the castle you will visit the Royal Palace, St. Vitus Cathedral, St. George's Basilica and Golden Lane.

Our guide will highlight all important historical details of Prague Castle's role in Czech history. After the visit you will descend the castle stairs to the Lesser Town and continue walking towards Charles Bridge where the tour terminates.

Duration: 3.5 hours

Transportation: Bus + foot

Price: 900 CZK

Offered Daily

Departure times: 11:30

### Folklore Party

Our coach will take you to a typical Czech restaurant for a traditional dinner consisting of an aperitif, coffee and unlimited consumption of beer, wine and soft drinks. After dinner you will be able to enjoy a folklore program with live music and dance. After about three hours you will be taken by coach to Republic Square (Namesti Republiky) in the city center.

Duration: 4 hours

Transportation: Bus

Price: 1350 CZK

Offered Thursday, September 22 & Friday, September 23

Departure times: 19:00

### Guest Hospitality Program

Registered guests of the Annual Meeting & Course are welcome to attend the Welcome Reception on Wednesday, September 21 and the Farewell Reception on Friday, September 23 for the additional cost of \$25. All registered guests are also welcome to meet and plan their days over a continental breakfast in the Guest Hospitality Suite at the Corinthia Hotel, courtesy of SRS. The Guest Hospitality Suite will be open Thursday, September 22 through Saturday, September 24.



## Housing Information

SRS is proud to partner with Dekon, our partners in Prague, to provide the following hotel accommodations:

**Housing Opens: April 1, 2016**

**Housing Reservation Deadline: August 26, 2016**

Hotels	Category	Location	Room Type	Single Room	Double Room
Corinthia Hotel Prague	5 Star	1 mn walking distance (next to meeting location)	Superior Room	€ 160	€ 178
			Business Room	€ 195	€ 213
			Executive Room	€ 205	€ 223
Holiday Inn Prague Congress Centre	4 Star	1 mn walking distance (next to meeting location)	Standard Room	€ 160	€ 170
			Executive Room	€ 180	€ 190
Hilton Prague Old Town	5 Star	8 mn by metro (at the city center)	Executive Room	€ 270	€ 285

### Reservation Procedures

- Hotel rooms have been blocked at various hotels near the Annual Meeting venue.
- Please make your reservations early, bookings are on a first-come first-served basis.
- For any queries about hotel matters, please contact us via email: srs@dekon.com.tr
- Rates quoted are in Euros, per room per night, including breakfast and VAT.
- Deadline for hotel reservations is **August 26, 2016**. For reservation requests after that date, Dekon may not be able to guarantee any available rooms with the above-mentioned room rates.
- Reservations will only be confirmed after receiving the full payment by credit card or bank transfer.
- Hotel check-in time is 14:00 hrs and check-out time is 11:00 hrs. If you expect to arrive earlier than the check-in time and require guaranteed check-in on arrival, please make your hotel reservations for the day before.
- **\*Please note SRS is unable to assist with housing reservations.\***

### Cancellation Policy

Cancellations or changes should be received in writing by the 51<sup>st</sup> Annual Meeting & Course housing bureau (DEKON) by fax at +90 212 347 63 63, or via e-mail to srs@dekon.com.tr . Please do not contact the hotels directly.

- Cancellations received before or on **August 16, 2016** – 1 night no-show will be charged
- Cancellations received on or after **August 17, 2016** – no refund

**Please note that housing refunds will be processed within 30 days after the end of 51<sup>st</sup> Annual Meeting & Course, bank charges will be deducted from the refund.**

In the event of non-arrival, the hotel will automatically release the reservation and full payment will be non-refundable.

**Late Arrival /Early Departure Fee** - If you arrive later or leave earlier than on the dates of your confirmed booking, the total cost of housing will be charged and no refunds will be issued.

### Airport Transfers

One way private transfer - Sedan Car: € 50 / per car (max 2 persons)

One way private transfer – Mercedes Viano: € 80 / per car (max 5 persons)

One way private transfer – Mercedes E: € 90 / per car (max 2 persons)

- Rates quoted are in Euros, for one way, including taxes.
- Drop off and pick-ups will be made to/from hotels.

#### Cancellation Policy – Transfer:

Cancellations or changes should be received in writing by the 51<sup>st</sup> Annual Meeting & Course housing bureau (DEKON) by fax at +90 212 347 63 63, or via e-mail to srs@dekon.com.tr .

- Cancellations received before or on **July 9, 2016** – eligible for full refund
- Cancellations received on or after **July 10, 2016** – no refund

**Please note that transfer refunds will be processed within 30 days after the end of 51<sup>st</sup> Annual Meeting & Course, bank charges will be deducted from the refund.**

#### For Questions about Annual Meeting Housing and/or Airport Transfers, Please Contact:

Dekon Congress & Tourism

E-mail: srs@dekon.com.tr

Phone: +90 212 347 63 00

Fax: +90 212 347 63 63

## Meeting Outline

<b>Monday, September 19, 2016</b>	
8:00am-5:00pm	Board of Directors Meeting
<b>Tuesday, September 20, 2016</b>	
7:00am-5:00pm	SRS Committee Meetings
1:00-5:00pm	Hibbs Society Meeting
2:00-6:00pm	Registration Open
7:00-10:00pm	SRS Leadership Dinner (by invitation only)
<b>Wednesday, September 21, 2016</b>	
6:30am-6:00pm	Registration Open/ Internet Kiosks E-Posters Open
7:45am-12:00pm	Pre-Meeting Course – Morning Sessions
12:10-1:10pm	Lunchtime Symposia
1:20-4:30pm	Pre-Meeting Course – Afternoon Sessions
4:45-5:45pm	Case Discussions
6:00-7:15pm	Opening Ceremonies
7:15-9:00pm	Welcome Reception
<b>Thursday, September 22, 2016</b>	
6:30am-4:30pm	Registration Open/ Internet Kiosks E-Posters Open
6:30-7:45am	Members Business Meeting
	Non-Members Continental Breakfast
7:30-10:00am	Guest Hospitality Suite
7:55am-12:30pm	Scientific Program
12:30-1:30pm	Lunch & Networking for Half-Day Course Participants
	Member Information Session
1:30-4:30pm	Half-Day Courses
<b>Friday, September 23, 2016</b>	
6:30am-5:30pm	Registration Open/Internet Kiosks, E-Posters Open
6:30-7:45am	Members Business Meeting/Non-Members Continental Breakfast
7:30-10:00am	Spouse Hospitality Suite
7:55-11:50am	Scientific Program
12:00-1:00pm	Lunchtime Symposia
	Research Grant Outcomes
1:15-5:15pm	Scientific Program
7:00-11:00pm	Farewell Reception
<b>Saturday, September 24, 2016</b>	
6:30am-12:45pm	Registration Open/ Internet Kiosks E-Posters Open
6:30-7:45am	Members Business Meeting/Non-Members Continental Breakfast
7:55am-12:45pm	Scientific Program
1:00-3:30pm	Board of Directors Meeting

## Pre-Meeting Course

### Complications and Risk Stratification in Deformity Surgery - An Evidence Based Approach

Wednesday, September 21, 2016

Chair: Theodore J. Choma, MD

Planning Committee: Charles H. Crawford, III, MD; Benny T. Dahl, MD, PhD, DMSci; James O. Sanders, MD; Rajiv K. Sethi, MD

8:00am–4:30pm

Objectives:

As a result of participating in this activity, participants should be able to:

- Describe what risk stratification is and how it can impact patient care
- Identify predictors of outcomes and implement them in their care plans
- Utilize information about cost in developing strategies to optimize cost effective care

#### Session 1: Basic Concepts

Moderators: Benny T. Dahl, MD, PhD, DMSci & Rajiv K. Sethi, MD

8:00-8:05am	Course Introduction <i>David W. Polly, Jr., MD &amp; Theodore J. Choma, MD</i>
8:05-8:20am	What is Risk Stratification and Why Does It Matter? <i>Benny T. Dahl, MD, PhD, DMSci &amp; Rajiv K. Sethi, MD</i>
8:20-8:30am	Risk Stratification and Outcomes: What is the Evidence? <i>Charles H. Crawford, III, MD</i>
8:30-8:40am	What is the Current Status of Risk Stratification? <i>Sigurd H. Berven, MD</i>
8:40-8:50am	Perspectives of a European Health Care Economist <i>Jan Sørensen, MSc</i>
8:50-9:00am	Perspectives of an American Surgeon and Healthcare Executive <i>Stephen L. Ondra, MD</i>
9:00-9:10am	Perspectives of a South American Surgeon <i>Helton Luiz Aparecido Defino, MD</i>
9:10-9:30am	Discussion
9:30-9:40am	Technological Solutions to Risk Stratification <i>Suken A. Shah, MD</i>
9:40-9:50am	Should Psychological Profile be Included in Risk Stratification? <i>Michael D. Daubs, MD</i>
9:50-10:00am	Patient Selection or Patient Avoidance: The Ethics of Saying “NO” <i>Brian G. Smith, MD</i>
10:00-10:20am	“Own the Patient” Panel <i>Moderator: Benny T. Dahl, MD, PhD, DMSci</i> <i>Participants: Sigurd H. Berven, MD; Michael D. Daubs, MD; Rajiv K. Sethi, MD; Brian G. Smith, MD; Kit M. Song, MD, MHA</i>
10:20-10:35am	Discussion
10:35-10:55am	Break



## Pre-Meeting Course Program

### Session 2: The Current Status of Risk Stratification

Moderators: Charles H. Crawford, III, MD & James O. Sanders, MD

- 10:55-11:10am The Northwestern High Risk Spine Protocol: Lessons of the Past Decade  
*Tyler Koski, MD*
- 11:10-11:25am Eliminating Variability and Enfranchising Safety: The Seattle Approach to Adult Spinal Deformity  
*Rajiv K. Sethi, MD*
- 11:25-11:40am Registry Utility in Risk Factors: Analysis for Adult Spinal Deformity  
*Christopher P. Ames, MD*
- 11:40am-12:00pm Using the Toyota Model/LEAN Panel  
*Moderator: Rajiv K. Sethi, MD*  
*Panel: Douglas C. Burton, MD, Lloyd A. Hey, MD, MS; James O. Sanders, MD*
- 12:00-12:20pm Discussion
- 12:20-1:35pm **Lunchtime Symposia**  
The Most Significant Spinal Deformity Papers Published in the Past Three Years  
Physiotherapeutic Scoliosis Specific Exercises: Update for Therapeutic Exercises in the Treatment of Scoliosis  
Biology and Mechanics of Junctional Failures  
For course descriptions please see page 19.

### Session 3: Pediatrics and Risk Stratification

Moderators: James O. Sanders, MD & Michael G. Vitale, MD, MPH

- 1:35-1:40pm Framing the Issues  
*Michael G. Vitale, MD, MPH*
- 1:40-1:45pm Issues of Risk Stratification in Children  
*James O. Sanders, MD*
- 1:45-1:55pm Failure in Early Onset Scoliosis and When Should We Say “No”?  
*Michael G. Vitale, MD*
- 1:55-2:02pm AIS: Are All Cases the Same and How Will Surgeons Be Compared?  
*Peter O. Newton, MD*
- 2:02-2:12pm Discussion
- 2:12-2:20pm Neuromuscular Scoliosis: It’s Not Just Another Case  
*Carol C. Hasler, MD*
- 2:20-2:27pm Do Different Facilities and Surgeons Increase a Patient’s Risk?  
*Mark A. Erickson, MD*
- 2:27-2:35pm NSQIP-Peds as a Model for Risk Improvement  
*Brian Brighton, MD*
- 2:35-2:50pm Discussion
- 2:50-3:10pm Break

## Pre-Meeting Course Program

### Session 4: ASD and Risk Stratification

Moderators: Benny T. Dahl, MD, PhD, DMSci & Rajiv K. Sethi, MD

3:10-3:20pm	How I Use Current Evidence to Reduce Complications in ASD (Discussion of Scolio-Risk-1 Study) <i>Lawrence G. Lenke, MD</i>
3:20-3:30pm	Technology and ASD: An Algorithm <i>Benny T. Dahl, MD, PhD</i>
3:30-3:40pm	How I Use Age and Comorbidities to Make Decisions <i>Morio Matsumoto, MD</i>
3:40-3:50pm	Discussion
3:50-4:00pm	Avoiding Bleeding, Infection and Neurological Complications: An Algorithm <i>Arvind Jayaswal, MD</i>
4:00-4:10pm	Putting It All Together: Informed Consent and Patient First <i>Marinus De Kleuver, MD, PhD</i>
4:10-4:25pm	Discussion
4:25-4:30pm	Closing Remarks/Final Thoughts <i>Theodore J. Choma, MD</i>





## Case Discussion Program

### Wednesday, SEPTEMBER 21, 2016

4:45-5:45pm

These sessions are open to all Annual Meeting delegates. Pre-registration is not required and no additional fee applies.

The Case Discussion sessions allow an opportunity to present unique and challenging clinical cases to the SRS with a panel of experts present to review and discuss each case and the clinical issues that are highlighted, as well as answer questions from audience participants. The panels will also prepare case studies for presentation and discussion, as time allows.

#### Case Discussion #1: Pediatric and Adolescent Deformity

Moderators: Stefan Parent, MD, PhD and Baron S. Lonner, MD

Cases for Discussion:

- 1A. **Concurrent Posterior Spinal Fusion and Vertebral Body Tethering for a Patient with Marfan's Syndrome with Spondylolisthesis and Severe Idiopathic Scoliosis**  
*Randal R. Betz, MD; M. Darryl Antonacci, MD, FACS; Laury A. Cuddihy, MD; Dante M. Leven, DO*
- 1B. **Minimally Invasive Scoliosis Surgery (MISS) Approach for 90 degree Scoliotic Deformity in High Level Athlete**  
*Vishal Sarwahi, MD; Sanjeev Suratwala, MD, FACS, FAAOS; Rachel Gecelter; Stephen Wendolowski; Terry D. Amaral, MD; Melanie A. Gambassi, PNP*
- 1C. **A Case of Neuro Deficit in the Un-Instrumented Spine in a Child with Osteogenesis Imperfecta with >110 Double Scoliosis**  
*Amit Jain, MD; Paul D. Sponseller, MD, MBA*
- 1D. **Benefits of 3D Modeling: A Case Study in Severe Scoliosis Associated with Osteogenesis Imperfecta**  
*Sumeet Garg, MD; Nicole Michael; Nikki Bloch; George Frey, MD*

#### Case Discussion #2: Adult Deformity

Moderators: Kenneth M.C. Cheung, MD; David W. Polly, Jr., MD & Behrooz A. Akbarnia, MD

Cases for Discussion:

- 2A. **Cervical Proximal Junctional Failure and Kyphosis in Adult Spinal Deformity**  
*Vishal Sarwahi, MD; Ahmad Latefi, DO; Shashank V. Gandhi, MD; Stephen Wendolowski; Rachel Gecelter*
- 2B. **Challenges of Managing Late-Presenting Kyphoscoliosis**  
*Vishal Sarwahi, MD; Adam L. Wollowick, MD; Terry A. Amaral, MD; Stephen Wendolowski; Rachel Gecelter; Melanie A. Gambassi, PNP*
- 2C. **Retroperitoneal Hematoma after Extreme Lateral Interbody Fusion (XLIF) Approach in Revision Scoliosis Surgery: Case Report and a Review of the Literature**  
*Andrea Piazzolla, MD; Massimo Balsano, MD; Pedro Berjano, MD, PhD; Viola Montemurro, MD; Biagio Moretti, MD*
- 2D. **Posterior Spinal Fusion with Multilevel Posterolateral Convex Disc Releases for the Treatment of Severe Thoracolumbar Idiopathic Scoliosis**  
*Baron S. Lonner, MD; Dante M. Leven, DO; Yuan Ren, PhD; Gabrielle Kassin*

#### Case Discussion #3: Innovative Methods

Moderators: Amer F. Samdani, MD and Michael G. Vitale, MD, MPH

Cases for Discussion:

- 3A. **Growing Rods Effect on the 3 Planes of Deformity in Early Onset Scoliosis**  
*Burt Yaszay, MD; Fredrick G. Reighard, MPH; Joshua Doan, MEng; Jeff B. Pawelek; Christine L. Farnsworth, MS; Gregory M. Mundis, Jr., MD; Behrooz A. Akbarnia, MD*
- 3B. **Magnetic-Controlled Growing Rods (MCGR) Are a Promising New Technology for the Treatment of Early Onset Scoliosis**  
*Selina C. Poon, MD; Jon-Paul DiMauro, MD; Terry D. Amaral, MD; Adam Graver, MD; Stephen Wendolowski; Rachel Gecelter*
- 3C. **Characterization of Complex Vertebral Transposition (Gamma Deformity) and the Early Radiographic Results and Complications of Halo-Gravity Traction and 3 Column Osteotomy**  
*Obeneba Boachie-Adjei, MD; Jennifer Ayanga, MPhil; Ferran Pellisé, MD, PhD; Cristina Sacramento Dominguez, MD, PhD; Theresa Yirerong, MPH; Irene Wulff, MD; Harry Akoto, MD; FOCOS Spine Research Group*
- 3D. **Slow Correction of Severe Spastic Hyperlordosis by Means of Magnetically Expandable Rods in an Adults**  
*Christof Birkenmaier, MD; Bernd Wegener, MD; Carolin Melcher, MD*

## Educational Program

Pre-registration is required for all of the following sessions and space is limited. There is an additional cost of \$30 for the Half-Day Courses. An additional registration fee of \$50 applies for the Hibbs Society Program. The Hibbs Society Program is not eligible for CME credit.

### Tuesday, September 20, 2016 – Hibbs Society Program\*

1:00-5:00pm

Over the years, the Russell A. Hibbs Society, a group formed in 1947 as an international travel club for continuing medical education and furthering orthopaedic knowledge, has held an educational meeting at the SRS Annual Meeting. These meetings address difficult and complex issues that do not lend themselves to the usual kind of scientific presentations. The meeting encourages interaction among international participants and new ideas, new concepts and reports on personal experience.

#### Cervical Deformity from Childhood to Adulthood

##### 1. Assessment

Moderator: Stefan Parent, MD, PhD

- a. Emerging Measurements- Auditory Foramen, Jaw Angle, Etc.  
*Christopher P. Ames, MD*
- b. 3D Imaging  
*Hubert Labelle, MD*
- c. Clinical Assessment- Facial Asymmetry, Vestibular Dysfunction, Etc.  
*Amer F. Samdani, MD*

##### 2. Intrinsic Deformity

Moderator: Burt Yaszay, MD

- a. Klippel-Feil- Coronal Deformity  
*Michael J. McMaster, MD, DSc, FRCS*
- b. Cervical/Upper Thoracic 3 Column Osteotomy  
*Ikka J. Helenius, MD, PhD*
- c. Bullet Shaped Vertebra with Instability  
*B. Stephens Richards, III, MD*
- d. Pediatric Cervical Spine Tumors  
*John Dormans, MD*
- e. Post Laminectomy Kyphosis  
*Kuniyoshi Abumi, MD*

Cases of Intrinsic Deformity

##### 3. Extrinsic Deformity

Moderator: Patrick J. Cahill, MD

- a. PJK  
*Ronald A. Lehman, Jr., MD*
- b. Iatrogenic Chin-on-chest Management  
*Yong Qiu, MD*
- c. Cervical Deformity in Neurofibromatosis  
*Alvin H. Crawford, MD*
- d. Cervical Deformity and Instability in Skeletal Dysplasias and Syndromes  
*Jonathan H. Phillips, MD*
- e. Cervical Response to Thoracic Deformity- AIS
  - i. What we know in pediatrics world – *Suken A. Shah, MD*
  - ii. What does it mean in the adult world – *Gregory M. Mundis, Jr., MD*

Case of Extrinsic Deformity

\*Program is subject to change



## Educational Program

### Wednesday, September 21, 2016 – Lunchtime Symposia

12:35-1:35pm

#### The Most Significant Spinal Deformity Papers Published in the Past Three Years

*Chair: Paul T. Rubery Jr., MD*

In this Lunchtime Symposium three SRS fellows (Drs. Sanders, Hu, Rubery) will each present and review the three published deformity papers that they consider “most significant” in the areas of pediatric deformity, adult deformity, and deformity related basic science from the past three years. During the hour, participants will be exposed to nine recently published, important peer-reviewed deformity papers. There will be opportunity for discussion and questions. This event will provide insight into the published literature, and may identify a paper that the attendee has missed.

#### Physiotherapeutic Scoliosis Specific Exercises: Update for Therapeutic Exercises in the Treatment of Scoliosis

*Chair: Matthew F. Halsey, MD*

The purpose of this symposium is to introduce and update members on the potential benefits and pitfalls of Physiotherapeutic Scoliosis Specific Exercises (PSSE). A brief introduction and history of this modality will be followed by short papers describing current research efforts and findings in Europe, North America, and Asia. The second half will review how PSSE are currently incorporated into the treatment of scoliosis in select North American centers. The symposium will end with a short debate about the merits and/or limits of PSSE.

#### Biology and Mechanics of Junctional Failures

*Chair: Jwalant S. Mehta, FRCS (Orth)*

This session will be based around basic science concepts. An understanding of these would lead to an appreciation of the possible etiology factors for junctional failures. A discussion of surgical strategies would help in preventing these complications. This would cover junctional problems in all ages and for various different deformity.

### Friday, September 23, 2016 – Lunchtime Symposia

12:00-1:00pm

#### Safety, Value and Minimizing Complications in International Spine Care / SRS-GOP Missions

*Co-chairs: Suken A. Shah, MD and Ferran Pellisé, MD, PhD*

This Lunchtime Symposium will be an interactive session for our membership to be well versed in safety and value concepts that are becoming increasingly important in reducing error, protecting patients, minimizing complications and improving outcomes in spinal deformity surgery all over the world. New this year will be an international perspective from diverse faculty experienced in safety and running SRS Global Outreach Program (GOP) missions successfully. If you have ever thought about volunteering your skills in another country and want to do so safely, responsibly and sustain this effort, you will find this Lunchtime Symposium informative. If you already have experience with medical missions and SRS GOP efforts, you will be able to share your experience and network with others to develop best practices.

#### What Should the Goal be in Spine Deformity Surgery in the Elderly Population?

*Chair: Cristina Sacramento Dominguez, MD, PhD and Theodore J. Choma, MD*

The management of spinal deformity in elderly patients is a challenge mainly because of eventual complications, some of them related to the poor fixation in an osteoporotic bone. To be aware of those problems and how to improve the management of them, it is mandatory in an increased elderly population that needs to be addressed to minimize the potential complications.

#### Research Grant Outcomes

*Chair: Michael Rosner, MD and Patrick J. Cahill, MD*

The SRS Research Grant Committee presents a Lunchtime Symposium giving recent grant recipients and opportunity to present and discuss the fruits of their labors. After presenting their final results, each project will be discussed in detail. There will also be an opportunity to discuss the grant funding application process with the members of the SRS Research Grants Committee.

## Educational Program

### Thursday, September 22, 2016 – Half-Day Courses

1:30-4:30pm

#### Adult Scoliosis: Current Concepts

*Chairs: Munish C. Gupta, MD; S. Rajasekaran, MD, FRCS, MCh, PhD; Christopher I. Shaffrey, MD*

Section 1 Moderator: Munish C. Gupta, MD

1:30-1:40pm Radiographic Analysis of Adult Scoliosis *Themistocles S. Protopsaltis, MD*

1:40-1:50pm Sagittal Plane in Adult Scoliosis: How Does it Affect Results? *Virginie LaFage, PhD*

1:50-2:00pm Surgical Planning in Adult Scoliosis: Key Elements *Ibrahim Obeid, MD*

2:00-2:10pm Discussion

Section 2 Moderator: Christopher I. Shaffrey, MD

2:10-2:20pm Failures and Successes from Aggressive Posterior Releases in Adult Scoliosis *Khaled Kebaish, MD*

2:20-2:30pm Is Anterior Surgery Still Useful in the Treatment of Adult Scoliosis *Ferran Pellisé, MD, PhD*

2:30-2:40pm Is Primary PSO the Way to Go in Rigid Adult Scoliosis? *Christopher P. Ames, MD*

2:40-2:50pm Minimally Invasive Intradiscal Release and Posterior Fixation *James Schwender, MD*

2:50-3:05pm Discussion

Section 3 Moderator: S. Rajasekaran, MD, FRCS, MCh, PhD

3:05-3:15pm PJK in Adult Scoliosis: Prevention Strategies *Mitsuru Yagi, MD, PhD*

3:15-3:25pm How to Deal with and Osteopenia in Adult Scoliosis *Azmi Hamzaoglu, MD*

3:25-3:35pm Revisions in Adult Scoliosis: Lessons Learned *Munish C. Gupta, MD*

3:35-3:45pm Discussion

Section 4 Moderators: S. Rajasekaran, MD, FRCS, MCh, PhD & Christopher I. Shaffrey, MD

3:45-4:30pm Case Discussion

#### Minimally Invasive Spinal Deformity: An Emerging Technological Advance or a Flash in the Pan?

*Chair: Praveen V. Mummaneni, MD; Suken A. Shah, MD*

1:30-1:35pm Introduction *Praveen V. Mummaneni, MD*

Section 1: MIS and Adult Spinal Deformity – Moderator: Praveen V. Mummaneni, MD

1:35-1:45pm Spinal Balance Principles *Steven D. Glassman, MD*

1:45-1:55pm Achievement of Spinal Balance: Indications and Patient Selection for Open vs. MIS Correction of Adult Spinal Deformity (Using the MISDEF Algorithm) *Frank La Marca, MD*

1:55-2:05pm MIS Deformity Approach Selection: When Anterior, When Lateral, When Posterior? *Gregory M. Mundis, MD*

2:05-2:13pm MIS Lateral Transpsoas Approaches Complication Avoidance and Management *Juan S. Uribe, MD*

2:13-2:21pm MIS Anterior to the Psoas Approaches: Complication Avoidance and Management *Dean Chou, MD*

2:21-2:29pm MIS Posterior Approaches: Complication Avoidance and Management *Richard G. Fessler, MD*

2:29-2:39pm Discussion

2:40-2:47pm Debate 1: MIS Surgery for Adult Spinal Deformity does Not Achieve Spinal Balance Goals and is a Flash in the Pan *Sigurd Berven, MD*

2:47-2:54pm Debate 1: MIS Surgery for Adult Spinal Deformity is the Wave of the Future *Neel Anand, MD*

2:55-3:10pm Case Discussion *Pierce Nunley, MD*



## Educational Program

Section 2: MIS and Pediatric Deformity Surgery – Moderator: Suken A. Shah MD

- 3:12-3:18pm Debate 2: We've Been There and Done That: MIS / Thoracoscopic Surgery was a Flash in the Pan *Daniel J. Sucato, MD, MS*
- 3:18-3:24pm Debate 3: The Pendulum Swings: MIS in Pediatric Spine Deformity Surgery Version 2.0 *Peter O. Newton, MD*
- 3:24-3:32pm MIS Anterior Approaches in the Pediatric Spine for Deformity *Hee-Kit Wong, MD*
- 3:32-3:39pm MIS Posterior Approaches in the Pediatric Spine for Deformity *Amer F. Samdani, MD*
- 3:39-3:46pm Early Onset Scoliosis and MIS Applications *Suken A. Shah, MD*
- 3:47-3:55pm Discussion
- 3:55-4:25pm Panel Discussion with Cases *Firoz Miyanji, MD*
- 4:25-4:30pm Wrap Up and Adjourn *Praveen V. Mummaneni, MD*

## Effecting Change in Health Care Organizations: An Introduction for Surgeons

Chair: *Paul T. Rubery, Jr., MD*

- 1:30-1:45pm Health Care Reform, Evolving Payment Models and their impact on Spine Surgery *Steven L. Ondra, MD*
- 1:45-2:00pm Understanding Institutional Priorities and Perspectives *Todd J. Albert, MD*
- 2:00-2:25pm A Brief Introduction to Health Care Finance: Costing, and Management Control *Paul T. Rubery, Jr., MD*
- 2:25-2:35pm Budgets and Why They Matter *David L. Skaggs, MD*
- 2:35-2:50pm Measuring Outcomes- Influencing Value *Paul T. Rubery, JR., MD*
- 2:50-3:05pm Effecting Change in Hierarchical Organizations *Michael J. Yaszemski, MD, PhD*
- 3:05-3:15pm Discussion
- 3:15-3:25pm Introducing New Technology in a Government Financed Health System *David S. Marks, FRCS*
- 3:25-3:35pm Challenges of Managing Budgets and Allocating Resources in a Government Financed Health System *Kenneth M.C. Cheung, MD*
- 3:35-3:50pm Strategies for Successful Advocacy with Legislative Bodies *Stuart L. Weinstein, MD*
- 3:50-4:05pm Strategies for Successful Advocacy with the FDA *Robert M. Campbell, Jr., MD*
- 4:05-4:20pm Challenges of Organizing and Maintaining a 501(c)3 *Steven M. Mardjetko, MD, FAAP*
- 4:20-4:30pm Discussion



## Scientific Program

### Thursday, September 22, 2016

#### Session 1: Adolescent Idiopathic Scoliosis

7:55-9:49am

Moderators: Larry G. Lenke, MD & Peter O. Newton, MD

7:55-8:00am

Welcome

8:00-8:04am

**Paper # 1 Long-Term Follow-Up of Thoracic Adolescent Idiopathic Scoliosis with Pedicle Screw Instrumentation: Fifteen or More Years of Follow-up.**

*Se-Il Suk, MD; Jin-Hyok Kim, MD; Sung-Soo Kim; Dong-Ju Lim, MD; Dong-Gune Chang, MD*

8:04-8:08am

**Paper # 2 Comparison of Surgical Outcomes between Hooks and Pedicle Screw Instrumentation in Lenke Type 1 or 2 AIS Patients after a Minimum 10-year Follow-up**

*Ayato Nohara, MD; Noriaki Kawakami, MD; Taichi Tsuji, MD; Tesuya Ohara, MD; Yoshitaka Suzuki, MD; Toshiki Saito, MD; Ryoji Tauchi, MD; Kazuki Kawakami*

8:08-8:12am

**Paper # 3 Timing and Predictors of Return to Short-term Functional Activity in Adolescent Idiopathic Scoliosis After Posterior Spinal Fusion**

*Patrick J. Kiely*

8:12-8:21am

Discussion

8:22-8:26am

**Paper # 4 T1 Tilt and Clavicle Angle are the Best Predictors of Postoperative Shoulder Balance**

*Vishal Sarwahi; Stephen F. Wendolowski, BS; Rachel Claire Gecelter, BS; Saankritya Ayan, MD; Terry D. Amaral, MD; Beverly Thornhill, MD; Abhijit Pawar, MD*

8:26-8:30am

**Paper # 5 Is it Enough to Stop Distal Fusion at L3 in Adolescent Idiopathic Scoliosis (AIS) with Major Thoracolumbar/Lumbar Curves?**

*Choon Sung Lee; Chang Ju Hwang; Dong-Ho Lee, MD, PhD; Jae Hwan Cho*

8:30-8:34am

**Paper # 6 What is the Maximum Kyphosis Achievable in Adolescent Idiopathic Scoliosis Patients with Estimated 3D Frank Thoracic Lordosis**

*Kuan Wen Wu, MD; Peter O. Newton, MD; Burt Yaszay, MD; Vidyadhar V. Upasani, MD; Tracey Bastrom, BS; Carrie E. Bartley; Harms Study Group*

8:34-8:43am

Discussion

8:44-8:48am

**Paper # 7 Radiographic Results of Selecting the Touched Vertebra as the Lowest Instrumented Vertebra in Lenke Type 1 (Main Thoracic) & Type 2 (Double Thoracic) Curves at a Minimum 5-year Follow-up**

*Lawrence G. Lenke, MD; Peter O. Newton, MD; Ronald A. Lehman, MD; Michael P. Kelly, MD, MS; David H. Clements, MD; Thomas J. Errico, MD; Randal R. Betz, MD; Amer F. Samdani, MD; Kathy M. Blanke, RN; Yan Yan; Harms Study Group*

8:48-8:52am

**Paper # 8 Optimal Selection of the Lowest Instrumented Vertebra for Lenke Type 5 & 6 Thoracolumbar/Lumbar Major AIS Curves at Min. 5 Yr Followup**

*Lawrence G. Lenke, MD; Ronald A. Lehman, MD; Baron S. Lonner, MD; Thomas J. Errico, MD; Randal R. Betz, MD; Suken A. Shah, MD; Harry L. Shufflebarger, MD; Michael P. Kelly, MD, MS; Peter O. Newton, MD; Kathy M. Blanke, RN; Harms Study Group*

8:52-8:56am

**Paper # 9 Assessment of the Disc and Facet Degeneration in the Unfused Lumbar Spine after Stopping Fusion at L3 in AIS: An MRI study. How Much Disc Wedging and Residual Curve can be Accepted?**

*Sinan Kahraman, MD; Ozcan Kaya, MD; Emel Kaya, MD; Onur Levent Ulusoy, MD; Ayhan Mutlu, MD; Gokhan Peker, MD; Kursad Aytekin; Amjad Alnashdan, MD; Bulent Guneri, MD; Gurkan Gumussuyu, MD; Tunay Sanli; Bekir Yavuz Ucar, PhD; Meric Enercan; Azmi Hamzaoglu, MD*

8:56-9:05am

Discussion

9:06-9:10am

**Paper # 10 Long-Term Results of Anterior Selective Fusion in Thoracolumbar Idiopathic Adolescent Scoliosis After 17 Years Follow-up**

*Javier Pizones; Renato Delfino, MD; Cristina Ruiz Juretschke; Lorenzo Zuñiga Gomez, PhD; Felisa Sánchez-Mariscal, MD, PhD; Enrique Izquierdo, MD, PhD*

9:10-9:14am

**Paper # 11 Selective Thoracic Fusion in Thoracic Adolescent Idiopathic Scoliosis: Distal Fusion Levels and Direction of Rod Derotation and Direct Vertebral Rotation: More than 10-Year Follow-up**

*Dong-Gune Chang*

## Scientific Program

9:14-9:18am	<b>Paper # 12 From Rib Hump to Baby Bump: An Assessment of Pregnancy after Surgery for AIS with Patient-Reported Outcomes</b> <i>Pawel Grabala, MD; Dariusz Kossakowski, MD, PhD; Patrick J. Cahill, MD; Suken A. Shah, MD</i>
9:18-9:27am	<b>Discussion</b>
9:28-9:32am	<b>Paper # 13 Spontaneous Lumbar Curve Correction is Greater When Thoracic Kyphosis is Restored Following a Selective Thoracic Fusion – 3D Analysis in AIS</b> <i>Peter O. Newton, MD; T. Barrett Sullivan, BS, MD; Tracey Bastrom, BS; Fredrick G. Reighard; Burt Yaszay, MD</i>
9:32 -9:36am	<b>Paper # 14 Best Prediction of Spontaneous Lumbar Curve Correction (SLCC) following Selective Thoracic Fusion in AIS using Logistic Regression Models and Clinical Rationale</b> <i>Heiko Koller, MD; Peter O. Newton, MD; Michelle Claire Marks; Harms Study Group</i>
9:36-9:40am	<b>Paper # 15 Thoracic Idiopathic Scoliosis Severity is Highly Correlated with 3D Measure of Thoracic Kyphosis</b> <i>T. Barrett Sullivan, BS, MD; Fredrick G. Reighard; Emily Osborn, MD; Peter O. Newton, MD</i>
9:40-9:49am	<b>Discussion</b>
9:50-10:10am	<b>Break</b>
<b>Session 2: Strategies and Techniques to Reduce Complications</b>	
10:10am-12:30pm	Moderators: Todd J. Albert, MD & John R. Dimar II, MD
10:10-10:14am	<b>Paper # 16 Outcomes and Complications of Sacropelvic Fixation Using S2 Alar-Iliac (S2AI) Technique in Adult Spinal Deformity Patients Fused to the Sacrum: A Five-Year Follow-Up Study</b> <i>Tina Raman, BS, MD, MS; Emily Kristine Miller; Paul D. Sponseller, MD; Khaled M. Kebaish, MD, FRCSC</i>
10:14-10:18am	<b>Paper # 17 Pre-operative Fibrinogen Testing is Associated with Total Blood Loss in Adult Spinal Deformity Correction</b> <i>Matthew J. Geck, MD; Devender Singh; Eeric Truumees, MD; Dana Hawthorne</i>
10:18-10:22am	<b>Paper # 18 Radiographic Predictors for Mechanical Failure following Adult Spinal Deformity Surgery</b> <i>Dennis Winge Hallager, MD, PhD; Sven Karstensen, BS; Syed Naeem Bukhari, BS; Martin Gehrchen, MD, PhD; Benny T. Dahl, MD, PhD</i>
10:22-10:31am	<b>Discussion</b>
10:32-10:36am	<b>Paper # 19 Improving Quality and Safety in Pediatric Spine Surgery: The Team Approach</b> <i>Firoz Miyanji, MD, FRCSC; Sameer Desai, BS; John Choi, BS; Janice Mok, BS</i>
10:36-10:40am	<b>Paper # 20 Bundles, Surveillance and Committees: Can an All-Out Assault on PSF SSI Yield A Measurable Return on Investment? Results of a 10 Year Study at a Major Pediatric Spine Center</b> <i>Christian Andre Refakis; John M. Flynn, MD</i>
10:40-10:44am	<b>Paper # 21 High-dose Tranexamic Acid Administrate in Hemivertebra Resection for Early Onset Scoliosis</b> <i>Tao Li, MD; Jingming Xie, MD; Zhiyue Shi, MD; Ying Zhang, MD; Zhou Liu, MD; Ni Bi, MD</i>
10:44-10:52am	<b>Discussion</b>
10:53-10:58am	<b>Paper # 22 Factors Associated with Complication-Free Patients in Adult Spinal Deformity Surgery: A Study of 301 Patients with 2-year Follow-up</b> <i>Han Jo Kim, MD; Bassel G. Diebo, MD; Frank J. Schwab, MD; Virginie Lafage, PhD; Gregory M. Mundis, MD; Christopher I. Shaffrey, MD; Justin S. Smith, MD, PhD; Robert A. Hart, MD; Douglas C. Burton, MD; Shay Bess, MD; Christopher P. Ames, MD; Eric O. Klineberg, MD; International Spine Study Group</i>
10:58-11:02am	<b>Paper # 23 Assessment of a Novel Adult Spinal Deformity (ASD) Frailty Index (ASD-FI) to Assist with Risk Stratification for ASD Surgery</b> <i>Emily Kristine Miller; Amit Jain, MD; Alan H. Daniels, MD; Brian James Neuman, MD; Alex Soroceanu, MD; Tamir Ailon, MD, FRCSC; Daniel M. Sciubba, MD; Shay Bess, MD; Breton Line, BS; Virginie Lafage, PhD; Justin K. Scheer, BS; Khaled M. Kebaish, MD, FRCSC; Justin S. Smith, MD, PhD; Christopher P. Ames, MD; International Spine Study Group</i>

## Scientific Program

11:02-11:06am	<b>Paper # 24 Use of the Adult Spinal Deformity (ASD) Frailty Index (ASD-FI) to Predict Major Complication Risk in the Scolio-Risk 1 Patient Database</b> <i>Emily Kristine Miller, Lawrence G. Lenke, MD; Kathrin Espinoza-Rebmann, MS; Brian James Neuman, MD; Daniel M. Sciubba, MD; Justin S. Smith, MD, PhD; Yong Qiu, MD; Benny T. Dahl, MD, PhD; Yukihiro Matsuyama; Michael G. Fehlings, MD, PhD, FRCSC; Kenneth MC Cheung, MD; Leah Yacat Carreon, MD, MS; Christopher P. Ames, MD; AO Spine Knowledge Forum Deformity; International Spine Study Group</i>
11:06-11:15am	<b>Discussion</b>
11:16-11:20am	<b>Paper # 25 Intraoperative Fluid Administration During Multi-Level Spine Surgery Impacts Extubation Status: A Propensity Score Matched Analysis</b> <i>Subaraman Ramchandran, MD; Louis Marcel Day, BS; Breton Line, BS; Dana Leslie Cruz, BS; Aaron James Buckland; John A. Bendo, MD; Peter G. Passias, MD; Themistocles S. Protopsaltis, MD; Jonathan H. Oren, MD; Jeffrey M. Spivak, MD; Jeffrey A. Goldstein, MD; Tessa Huncke Huncke; Thomas J. Errico, MD; Shay Bess, MD</i>
11:20-11:24am	<b>Paper # 26 How to Make the Best use of Intra-operative Motor-Evoked Potential Monitoring? Experience in 1856 Consecutive Spinal deformity Surgeries.</b> <i>Qianyu Zhuang, MD; Shujie Wang, PhD; Jianxiong Shen; Jianguo Zhang, MD; Yipeng Wang, MD; Guixing Qiu, MD</i>
11:24-11:28am	<b>Paper # 27 Unilateral Neurophysiological Alerts – Can we ignore them?</b> <i>Leok-Lim Lau, MD; Dennis Hwee Weng Hey, MD; Gabriel Liu, FRCSC; Naresh Kumar; Hee-Kit Wong, MD</i>
11:28-11:37am	<b>Discussion</b>
11:38-11:43am	<b>Harrington Lecture Introduction</b>
11:43am-12:03pm	<b>Harrington Lecture</b>
12:03-12:30pm	<b>Presentation of Lifetime Achievement Award</b>
12:30-1:30pm	<b>Lunch</b>
1:30-4:40pm	<b>Half Day Courses (see page 20)</b>

## Friday, September 23, 2016

### Session 3A: Hibbs Basic Research Award Nominees

7:55-8:42am

Moderators: Ronald A. Lehman, MD & Henry F.H. Halm, MD

7:55-8:00am **Welcome & Announcements**

8:00-8:04am **Paper # 28 The Possible Pathogenesis in Adolescent Idiopathic Scoliosis Based on Experimental Model of Melatonin-deficient C57BL/6J Mice**  
*Masafumi Machida, MD; Jean Dubousset, MD; Atsushi Miyake, MD, PhD; Mitsuru Yagi, MD, PhD; Masakazu Takemitsu, MD, PhD*

8:04-8:08am **Paper # 29 Identification of the First Genetic Locus Associated with Adolescent Idiopathic Scoliosis Curve Progression**  
*Yoji Ogura; Ikuyo Kou, PhD; Kazuki Takeda, MD; Yohei Takahashi, MD, PhD; Katsuki Kono, MD; Noriaki Kawakami, MD; Koki Uno; Manabu Ito, MD; Shohei Minami, MD, PhD; Ikuho Yonezawa, MD; Haruhisa Yanagida, MD; Hiroshi Taneichi, MD, PhD; Taichi Tsuji, MD; Teppei Suzuki, MD; Hideki Sudo, MD, PhD; Toshiaki Kotani, MD, PhD; Naobumi Hosogane, MD, PhD; Eijiro Okada, MD; Yoshiaki Toyama, MD, PhD; Morio Matsumoto, MD; Kota Watanabe, MD; Shiro Ikegawa, MD, PhD*

8:08-8:12am **Paper # 30 Muscle Mechanosensor Dysfunction results in Adolescent Idiopathic Scoliosis in an Animal Model**  
*Ronen Blecher, MD; Tomer Stern, PhD; Inbal Biton, PhD; Yoram Anekstein, MD; Elazar Zelzer, PhD*

8:12-8:21am **Discussion**

8:22-8:26am **Paper # 31 Preoperative Norepinephrine Levels in Cerebrospinal Fluid and Plasma Correlate with Pain Intensity after Pediatric Spine Surgery**  
*Catherine Estelle Ferland; Neil Saran, MD, FRCSC, MS; Jean A. Ouellet, MD, FRCSC*

8:26-8:30am **Paper # 32 Cost Analysis of Magnet-driven Growing Rods vs. Conventional Growing Rods for Early-Onset Scoliosis at Five Years**  
*Nanjundappa S. Harshavardhana, MS; Hilali Noordeen*

## Scientific Program

- 8:30-8:34am **Paper # 33 Development and External Validation of the Adult Spine Deformity (ASD) Frailty Index (ASD-FI)**  
*Emily Kristine Miller; Alba Vila-Casademunt, BS, MD, MS; Daniel M. Sciubba, MD; Brian James Neuman, MD; Justin S. Smith, MD, PhD; Khaled M. Kebaish, MD, FRCSC; Ahmet Alanay, MD; Emre R. Acaroglu, MD; Frank Kleinstück, MD; Ibrahim Obeid, MD; Francisco Javier Sanchez Perez-Grueso, MD; Ferran Pellisé, MD; Christopher P. Ames, MD; European Spine Study Group (ESSG); International Spine Study Group*
- 8:34-8:42am **Discussion**
- Session 3B: Hibbs Clinical Research Award Nominees
- 8:43-9:48am  
 Moderators: David W. Polly Jr., MD & Justin S. Smith, MD, PhD
- 8:43-8:47am **Paper # 34 Radiographic Outcomes of Shilla Growth Guidance System and Traditional Growing Rods through Definitive Treatment**  
*Scott John Luhmann, MD; June C. Smith; Anna M. McClung, RN; Frances McCullough, RN; Richard E. McCarthy, MD; George H. Thompson, MD; Growing Spine Study Group*
- 8:47-8:51am **Paper # 35 Psychological Profile of Children Who Require Repetitive Surgeries for Early-onset Scoliosis: Is a Poor Quality of Life the Cost for a Straighter Spine?**  
*Cihan Aslan, MD; Erkan Sabri Ertas, MD; Seniz Sozusta; Gokhan Halil Demirkiran, MD; Z. Deniz Olgun; Fatih Unal, MD; Muharrem Yazici, MD*
- 8:51-8:55am **Paper # 36 Improvement in SRS22R Pain Scores after Surgery for Adolescent Idiopathic Scoliosis**  
*Mladen Djurasovic, MD; Steven D. Glassman, MD; Daniel J. Sucato, MD, MS; Lawrence G. Lenke, MD; Leah Yacat Carreon, MD, MSc*
- 8:55-9:04am **Discussion**
- 9:05-9:09am **Paper # 37 Preventing Curve Progression in Adolescent Idiopathic Scoliosis (AIS) with Calcium and Vitamin D Supplementation – A Randomised Double-blinded Placebo-controlled Trial**  
*Tsz Ping Lam, MD; Benjamin Hon Kei Yip, PhD; Elisa MS Tam, PhD; Gene Chi Wai Man, PhD; Wayne Lee, PhD; Kwong Man Lee; Fiona Wai Ping Yu; Yong Qiu, MD; Bobby Kin Wah Ng, MD; Jack C.Y. Cheng, MD*
- 9:09-9:13am **Paper # 38 Surgery for the Adolescent Idiopathic Scoliosis Patients after Skeletal Maturity: Now or Later?**  
*Baron S. Lonner, MD; Yuan Ren, PhD, MS; Shay Bess, MD; Michael P. Kelly, MD, MS; Han Jo Kim, MD; Burt Yaszay, MD; Virginie Lafage, PhD; Firoz Miyanji, MD, FRCSC; Peter O. Newton, MD*
- 9:13-9:17am **Paper # 39 Teriparatide Actually Increase Volumetric Bone Mineral Density and Improve Fine Bone Structure of UIV+1 Vertebra and Reduce the Bone Failure Type PJK/PJF.**  
*Mitsuru Yagi; Shinjiro Kaneko; Masafumi Machida, MD; Yoshiyuki Yato, MD, PhD; Takashi Asazuma*
- 9:17-9:26am **Discussion**
- 9:27-9:31am **Paper # 40 Neurologic Complications Following Complex Adult Spinal Deformity Surgery: 2 Year Follow-up of the Scoli-Risk 1 Prospective, Multicenter, International Study**  
*Lawrence G. Lenke, MD; Christopher I. Shaffrey, MD; Leah Yacat Carreon, MD, MSc; Kenneth MC Cheung, MD; Khaled M. Kebaish, MD, FRCSC; Frank J. Schwab, MD; Ferran Pellisé, MD; Christopher P. Ames, MD; Yong Qiu, MD; Benny T. Dahl, MD, PhD; Michael G. Fehlings, MD, PhD, FRCSC; AOSpine Knowledge Forum Deformity*
- 9:31-9:35am **Paper # 41 Operative Versus Nonoperative Treatment of Adult Symptomatic Lumbar Scoliosis (ASLS): Observational Arm of Dual-Arm, Prospective NIH Study**  
*Michael P. Kelly, MD, MS; Christine R. Baldus; Lukas P. Zebala, MD; Christopher I. Shaffrey, MD; Charles H. Crawford, MD; Charles Cannon Edwards, MD; Steven D. Glassman, MD; Frank J. Schwab, MD; Tyler Koski, MD; Stephen J. Lewis, MD, FRCSC, MS; Han Jo Kim, MD; Stefan Parent, MD, PhD; Keith H. Bridwell, MD*
- 9:35-9:39am **Paper # 42 Neurological Complications in Adult Cervical Deformity Surgery**  
*Han Jo Kim, MD; Hongda Bao, MD, PhD; Sravisht Iyer, MD; Justin S. Smith, MD, PhD; Michael P. Kelly, MD, MS; Munish Chandra Gupta, MD; Todd J. Albert, MD; Themistocles S. Protopsaltis, MD; Gregory M. Mundis, MD; Peter G. Passias, MD; Eric O. Klineberg, MD; Virginie Lafage, PhD; Christopher P. Ames, MD; International Spine Study Group*
- 9:39-9:48am **Discussion**
- 9:48-10:08am **Break**

## Scientific Program

### Session 4: Surgery Outcomes

10:08-11:45am

Moderators: Darrel S. Brodke, MD & Christopher I. Shaffrey, MD

10:08-10:12am

**Paper # 43 Surgical Outcomes of Congenital Scoliosis Treated by Posterior Vertebral Column Resection (PVCR) in Patients under Age Eighteen: Greater than 10-Year Follow-up**

*Se-Il Suk, MD; Jin-Hyok Kim, MD; Dong-Ju Lim, MD; Suh Woo Seung, MD, PhD; Jung-Hee Lee, MD, PhD; Jae Hyuk Hyuk Yang, MD, PhD; Dong-Gune Chang*

10:12 -10:16am

**Paper # 44 Long-term Clinical Outcomes of Surgical Treatment for Congenital Scoliosis: a Study with Minimum Follow-up Period of 10 years**

*Noriaki Kawakami; Masaaki Ito, MD; Hiroko Matsumoto; Toshiki Saito, MD; Kazuki Kawakami; Teppei Suzuki, MD; Koki Uno*

10:16-10:20am

**Paper # 45 Assessing the Risk/Benefit Ratio of Surgery in CP: Is Surgery Worth It?**

*Firoz Miyanji, MD, FRCSC; Suken A. Shah, MD; Amer F. Samdani, MD; Baron S. Lonner, MD; Burt Yaszay, MD; Jahangir K. Asghar, MD; David H. Clements, III, MD; Peter O. Newton, MD*

10:20-10:29am

**Discussion**

10:30-10:34am

**Paper # 46 A Critical Assessment of  $\geq$  10-Year Follow-up of Spinal Fusions for Adolescent Idiopathic Scoliosis: Outcome Improvement and Continued Follow-up Required**

*Peter O. Newton, MD; Tracey Bastrom, BS; Carrie E. Bartley; Burt Yaszay, MD; Michelle Claire Marks; Randal R. Betz, MD; Lawrence G. Lenke, MD; David H. Clements, III, MD; Harms Study Group*

10:34-10:38am

**Paper # 47 Comparison of Surgical Outcome of Adolescent Idiopathic Scoliosis and Young Adult Idiopathic Scoliosis: A Match-Pair Analysis of 160 Lenke I Patients**

*Feng ZHU, MD; Hongda Bao, MD, PhD; Peng Yan, PhD; Yong Qiu, MD; Zezhang Zhu, MD; Bangping Qian, MD; Zhen LIU, MD*

10:38-10:42am

**Paper # 48 Evolution of Surgery for Adolescent Idiopathic Scoliosis over 20 Years: Have Outcomes Improved?**

*Baron S. Lonner; Yuan Ren, PhD, MS; Burt Yaszay, MD; Patrick J. Cahill, MD; Suken A. Shah, MD; Randal R. Betz, MD; Amer F. Samdani, MD; Harry L. Shufflebarger, MD; Peter O. Newton, MD*

10:42-10:51am

**Discussion**

10:52-10:56am

**Paper # 49 The Advantages and Disadvantages of Adult Spinal Deformity Surgery and its Impact on Health-related Quality of Life**

*Go Yoshida, MD; Ibrahim Obeid, MD; Louis Boissiere, MD; Mitsuru Takemoto, MD, PhD; Jean-Marc Vital, MD, PhD; Francisco Javier Sanchez Perez-Grueso, MD; Ferran Pellisé, MD; Ahmet Alanay, MD; Emre R. Acaroglu, MD; Frank Kleinstück, MD; European Spine Study Group (ESSG)*

10:56-11:00am

**Paper # 50 Surgical versus Non-surgical Treatment in Adult Spinal Deformity: an Observational Study and Propensity-adjusted Analysis**

*Mitsuru Takemoto; Ibrahim Obeid, MD; Louis Boissiere, MD; Jean-Marc Vital; Ferran Pellisé, MD; Francisco Javier Sanchez Perez-Grueso, MD; Frank Kleinstück, MD; Emre R. Acaroglu, MD; Ahmet Alanay, MD; European Spine Study Group (ESSG)*

11:00-11:04am

**Paper # 51 Complications and Patient Reported Outcomes of Primary vs. Revision Surgery for Severe Adult Spinal Deformity: A ScolioRisk-1 Sub-analysis**

*Amit Jain; Floreana Naef Kebaish, MD; Lawrence G. Lenke, MD; Christopher I. Shaffrey, MD; Michael G. Fehlings, MD, PhD, FRCSC; Benny T. Dahl, MD, PhD; Christopher P. Ames, MD; Yukihiro Matsuyama; Yong Qiu, MD; Hossein Mehdian, MD; Kenneth MC Cheung, MD; Frank J. Schwab, MD; Ferran Pellisé, MD; Leah Yacat Carreon, MD, MSc; Khaled M. Kebaish, MD, FRCSC*

11:04-11:13am

**Discussion**

11:14-11:17am

**2017 IMAST Preview**

11:17-11:20am

**2017 Annual Meeting Preview**

11:20-11:23am

**Worldwide Course Preview**

11:24-11:32am

**Introduction of the President** *Kenneth M.C. Cheung, MD - President Elect*

11:32-11:45am

**Presidential Address** *David W. Polly, Jr., MD*

11:45am-12:00pm

**Break**



## Scientific Program

12:00-1:00pm Lunchtime Symposia (see page 19)  
1:00-1:15pm Walking Break

Session 5: Cervical, Complications, Diagnostic, Basic Research (runs concurrent with session 6)

1:15-3:04pm

Moderators: Morio Matsumoto, MD & Hee-Kit Wong, MD

- 1:15-1:19pm **Paper # 52 Thoracolumbar Reciprocal Changes after Cervical Reconstructive Surgery**  
*Jun Mizutani, MD; Russell Glenn Strom, MD; Kuniyoshi Abumi, MD, PhD; Kenji Endo, MD; Ken Ishii, MD; Mitsuru Yagi, MD, PhD; Kushagra Verma, MD; Bobby Tay, MD; Vedat Deviren, MD; Christopher P. Ames, MD*
- 1:19-1:23pm **Paper # 53 Postoperative cervical sagittal realignment after debridement and reconstruction in cervical spinal tuberculous kyphosis**  
*Zhimin Pan, MD; Zhou Song, PhD; Chen Jiangwei, PhD; Zhong Junlong; Chen Yiwei; Lai Cao, MD, PhD*
- 1:23 -1:27pm **Paper # 54 Analysis of Early Distal Junctional Kyphosis (DJK) after Cervical Deformity Correction**  
*Themistocles S. Protopsaltis, MD; Subaraman Ramchandran, MD; Han Jo Kim, MD; Brian James Neuman, MD; Peter G. Passias, MD; Virginie Lafage, PhD; Renaud Lafage, MS; Munish Chandra Gupta, MD; Robert A. Hart, MD; Justin S. Smith, MD, PhD; Frank J. Schwab, MD; Shay Bess, MD; Christopher I. Shaffrey, MD; Christopher P. Ames, MD; International Spine Study Group*
- 1:27-1:36pm **Discussion**
- 1:37-1:41pm **Paper # 55 Complication Rates Associated with 3-Column Osteotomy in 82 Adult Spinal Deformity Patients: Retrospective Review of a Prospectively Collected Multicenter Consecutive Series with Minimum 2-Yr Follow-Up**  
*Justin S. Smith, MD, PhD; Munish Chandra Gupta, MD; Eric O. Klineberg, MD; Christopher I. Shaffrey, MD; Frank J. Schwab, MD; Virginie Lafage, PhD; Barthelemy Liabaud, MD; Han Jo Kim, MD; Robert A. Hart, MD; Richard Hostin, MD; Douglas C. Burton, MD; Vedat Deviren, MD; Shay Bess, MD; Christopher P. Ames, MD; International Spine Study Group*
- 1:41-1:45pm **Paper # 56 Orientation of the Upper Instrumented Segment Influences Proximal Junctional Disease Following Adult Spinal Deformity (ASD) Surgery**  
*Renaud Lafage, MS; Breton Line, BS; Barthelemy Liabaud, MD; Frank J. Schwab, MD; Justin S. Smith, MD, PhD; Jeffrey L. Gum, MD; Christopher P. Ames, MD; Richard Hostin, MD; Gregory M. Mundis, MD; Douglas C. Burton, MD; Han Jo Kim, MD; Shay Bess, MD; Eric O. Klineberg, MD; Virginie Lafage, PhD; International Spine Study Group*
- 1:45-1:49pm **Paper # 57 What is the Effect of Open vs Percutaneous Screws on Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity?**  
*Khoi Duc Than, MD; Stacie Nguyen; Paul Park, MD; Dean Chou, MD; Frank LaMarca, MD; Juan S. Uribe, MD; Todd D. Vogel, MD; Pierce D. Nunley, MD; Robert K. Eastlack, MD; Neel Anand, MD; Adam Kanter, MD; Praveen V. Mummaneni, MD; Gregory M. Mundis, MD; International Spine Study Group*
- 1:49-1:58pm **Discussion**
- 1:59-2:03pm **Paper # 58 Re-operation Following Sacral Alar-Iliac (S2AI) versus Traditional Iliac Pelvic Fixation**  
*Daniel G. Kang, MD; Jacob M. Buchowski, MD, MS; Mahati Mokkarala, BS; Panya Luksanapruksa, MD; Lawrence G. Lenke, MD*
- 2:03-2:07pm **Paper # 59 Prevalence and Risk Factors for Unplanned Return to Oroom for Complex Adult Spinal Deformity Patients: Scolio-Risk 1 Prospective Multicenter International Study**  
*Cora Hingyee Bow; Kenny Kwan; Dino Samartzis, PhD; Mark B. Dekutoski, MD; Frank J. Schwab, MD; Obeneba Boachie-Adjei, MD; Khaled M. Kebaish, MD, FRCSC; Christopher P. Ames, MD; Yong Qiu, MD; Yukihiko Matsuyama; Benny T. Dahl, MD, PhD; Hossein Mehdian, MD; Ferran Pellisé, MD; Leah Yacat Carreon, MD, MSc; Christopher I. Shaffrey, MD; Michael G. Fehlings, MD, PhD, FRCSC; Lawrence G. Lenke, MD; Kenneth MC Cheung, MD*
- 2:07-2:11pm **Paper # 60 Major Complications at 2 Years after Surgery Impacts SRS Scores for Adolescent Idiopathic Scoliosis Patients**  
*Burt Yaszay, MD; Tracey Bastrom, BS; Suken A. Shah, MD; Firoz Miyanji, MD, FRCSC; Baron S. Lonner, MD; Michael P. Kelly, MD, MS; Amer F. Samdani, MD; Jahangir K. Asghar, MD; Peter O. Newton, MD*

## Scientific Program

- 2:11-2:20pm **Discussion**
- 2:21-2:25pm **Paper # 61 Predicting Peak Growth Spurt and Cessation of Growth with the Distal Radius and Ulna Classification**  
*Jason Pui Yin Cheung; Prudence Wing Hang Cheung; Dino Samartzis, PhD; Kenneth MC Cheung, MD; Keith D K Luk, MD*
- 2:25-2:29pm **Paper # 62 Can Ossification Pattern of the Thumb Epiphyses Reliably Simplify the Classical Tanner-Whitehouse Hand Skeletal Maturity Assessment?-A Study of 645 Hand Radiographs from 125 Premature AIS Girls followed Longitudinally till Skeletal Maturity**  
*Alec Lik Hang Hung, FRCSC; Benglong SHI, MD; Wai-Wang Chau; Benjamin Hon Kei Yip, PhD; Fiona Wai Ping Yu; Vivian Wing Yin Hung; Bobby Kin Wah Ng, MD; Tsz Ping Lam; Jack C.Y. Cheng, MD*
- 2:29-2:33pm **Paper # 63 Ultralow Dose Radiation 3D Intraoperative Imaging: How Low Can We Go? An O-Arm®, CT Scan**  
*Vishal Sarwahi; Monica Payares, MD; Terry D. Amaral, MD; Stephen F. Wendolowski, BS; Rachel Claire Gecelter, BS; Adam L. Wollowick, MD; Beverly Thornhill, MD; Dan Wang, MS*
- 2:33-2:42pm **Discussion**
- 2:43-2:47 pm **Paper # 64 Elucidating the Role of POC5 in Idiopathic Scoliosis**  
*Amani Hassan, MS; Mathieu Levesque; Shunmoogum Patten; Sirinart Molidpere; Stefan Parent, MD, PhD; Soraya Barchi, BS; Florina Moldovan, MD, PhD*
- 2:47-2:51pm **Paper # 65 Genetic Evaluation for the Scoliosis Gene(s) in Patients with Neurofibromatosis Type 1**  
*David W. Polly, Jr., MD; Charles Ledonio, MD; Kenneth Ward, MD; Christopher Moertel, MD; Rakesh Chettier, MS; Lesa Nelson, BS; Alvin H. Crawford, MD; James W. Ogilvie, MD*
- 2:51-2:55pm **Paper # 66 Impaired Osteocyte Differentiation and Functional Expression of Sclerostin in Adolescent Idiopathic Scoliosis (AIS) in a 3D Culture Model- A New Novel Finding**  
*Jiajun Zhang, MS; Wayne Lee, PhD; Huanxiong Chen, MD; Elisa MS Tam, PhD; Gene Chi Wai Man, PhD; Tsz Ping Lam; Yong Qiu, MD; Jack C.Y. Cheng, MD*
- 2:55-3:04pm **Discussion**

### Session 6: Early Onset, Congenital and Neuromuscular (Runs Concurrently with Session 5)

- 1:15-3:04pm  
 Moderators: Suken A. Shah, MD & Laurel C. Blakemore, MD
- 1:15-1:19pm **Paper # 67 Upper Foundations Implanted Cephalad to Upper End Vertebrae of Kyphosis Decreases Post-Operative Proximal Junctional Angle**  
*Ron El-Hawary, MD; Ozren Kubat, MD; John A. Heflin, MD; Nadim Joukhadar, BS; Mohamad Samih Yasin, MD; Anna M. McClung, RN; Tara Flynn; David L. Skaggs, MD; Children's Spine Study Group; Growing Spine Study Group*
- 1:19-1:23pm **Paper # 68 Spinopelvic Parameters Predict Development of Proximal Junctional Kyphosis in Early Onset Scoliosis**  
*Ozren Kubat, MD; Virginie Lafage, PhD; Jen Hurry, MS; Alex Soroceanu, MD; Frank J. Schwab, MD; David L. Skaggs, MD; Children's Spine Study Group; Growing Spine Study Group; Ron El-Hawary, MD*
- 1:23-1:27pm **Paper # 69 Is the MAGEC is Magical? Long-Term Experience of a Single Institute**  
*David E. Lebel; Amit Sigal, MD; Dror Ovadia, MD*
- 1:27-1:36pm **Discussion**
- 1:37-1:41pm **Paper # 70 Metal Ion Release During Growth-Friendly Instrumentation for Early Onset Scoliosis**  
*Ayaz Efendiyev, MD; Caglar Yilgor, MD; Filiz Akbiyik; Gokhan Halil Demirkiran, MD; Alpaslan Senkoylu, MD; Ahmet Alanay, MD; Muharrem Yazici, MD*
- 1:41-1:45pm **Paper # 71 Distraction-Based Surgeries Increase Sagittal Thoracic Spine Length After 10 Lengthenings for Patients with Idiopathic Early Onset Scoliosis**  
*Ron El-Hawary, MD; Chukwudi Kingsley Chukwunyerewa, MD, FRCSC; Luke Gauthier, MD; Alan J. Spurway, MS; Anna M. McClung, RN; Charles E. Johnston, MD; Children's Spine Study Group; Growing Spine Study Group*

## Scientific Program

1:45-1:49pm	<b>Paper # 72 The Evaluation and Surgical Treatment of Congenital Deformities in the Cervicothoracic Spine</b> <i>Jianguo Zhang</i>
1:49-1:58pm	<b>Discussion</b>
1:59-2:03pm	<b>Paper # 73 A New Bipedal Model of Congenital Scoliosis</b> <i>Patrick J. Cahill, MD; Giuseppe Orlando, MD; Amer F. Samdani, MD; Joshua M. Pahys, MD; John M. Flynn, MD; Saba Pasha, PhD; Gianluca Gallo, PhD</i>
2:03-2:07pm	<b>Paper # 74 Preoperative Halo Gravity Traction in Severe Pediatric Spinal Deformity: A Single Center Prospective Study</b> <i>Joshua M. Pahys, MD; Mari L. Groves, MD; Joanna Wang, BS; Patrick J. Cahill, MD; Randal R. Betz, MD; Kimberly Hayes, MS; Melissa Morrison; Children's Spine Study Group; Amer F. Samdani, MD</i>
2:07-2:11pm	<b>Paper # 75 Can Halo Gravity Traction (HGT) with Posterior Spinal Fusion and Posterior Column Osteotomy (PCO) and Rib Resections Achieve Similar and Safer Correction of Complex Spine Deformity as Vertebral Column Resection (VCR)?</b> <i>Cristina Sacramento Dominguez, MD, PhD; Oheneba Boachie-Adjei, MD; Jennifer Ayamga; Ferran Pellisé, MD; Theresa Yirerong; Harry Akoto, MD; Irene Adorkor Wulff, MD; FOCOS Spine Research Group</i>
2:11-2:20pm	<b>Discussion</b>
2:21-2:25pm	<b>Paper # 76 Effect of Spinal Fusion on HRQOL and Caregiver Burden in Children with Severe Non-Ambulatory Cerebral Palsy</b> <i>Rachel Lee DiFazio, PhD; Patricia Miller, MS; Judith Vessey, PhD, RN; Brian D. Snyder, MD, PhD</i>
2:25-2:29pm	<b>Paper # 77 What is the Optimal Pelvic Obliquity for Patients With Cerebral Palsy Undergoing Spinal Fusion?</b> <i>Joshua M. Pahys, MD; Michael P. Kelly, MD, MS; Amer F. Samdani, MD; Patrick J. Cahill, MD; Jahangir K. Asghar, MD; Paul D. Sponseller, MD; Randal R. Betz, MD; Tracey Bastrom, BS; Harms Study Group; Suken A. Shah, MD</i>
2:29-2:33pm	<b>Paper # 78 What are the Indications to Fuse Short of the Pelvis in CP Scoliosis?</b> <i>Jahangir K. Asghar, MD; Stephen Graham George, MD; Joshua M. Pahys, MD; Mark F. Abel, MD; Harry L. Shufflebarger, MD; Suken A. Shah, MD</i>
2:33-2:42pm	<b>Discussion</b>
2:43-2:47pm	<b>Paper # 79 Walking Out of the Curve: Thoracolumbar Kyphosis in Achondroplasia</b> <i>Adam Margalit; Greg Michael McKean, BS; Cheryl Lawing, MD; Michael C. Ain, MD</i>
2:47-2:51pm	<b>Paper # 80 Thoracolumbar Kyphosis in Patients with Mucopolysaccharidoses</b> <i>Simon Benedict Roberts; Ross Dryden, BS; Athanasios I. Tsirikos, MD</i>
2:51-2:55pm	<b>Paper # 81 Outcomes of Spinal Fusion for Cervical Kyphosis in Children with Neurofibromatosis</b> <i>Ilkka J. Helenius; Paul D. Sponseller, MD; William Mackenzie, MD; John P. Dormans, MD; Jahangir K. Asghar, MD; Karl E. Rathjen, MD; Joshua M. Pahys, MD; Firoz Miyajni, MD, FRCSC; Daniel J. Hedequist, MD; Jonathan H. Phillips, MD</i>
2:55-3:04pm	<b>Discussion</b>
3:05-3:25pm	<b>Break</b>

### Session 7: Adult Deformity

3:25-5:14pm

Moderators: Steven D. Glassman, MD & Marinus De Kleuver, MD, PhD

3:25-3:29pm	<b>Paper # 82 Adult Spinal Deformity Patients with Previous Fusions have an Equal Chance of Reaching Substantial Clinical Benefit Thresholds in Health-related Quality of Life Measures but do not Reach the Same Absolute Level of Improvement</b> <i>Tamir Ailon, MD, FRCSC; Justin S. Smith, MD, PhD; Christopher I. Shaffrey, MD; Alex Soroceanu, MD; Virginie Lafage, PhD; Frank J. Schwab, MD; Douglas C. Burton, MD; Robert A. Hart, MD; Jeffrey L. Gum, MD; Richard Hostin, MD; Michael P. Kelly, MD, MS; Steven D. Glassman, MD; Shay Bess, MD; Christopher P. Ames, MD; International Spine Study Group</i>
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## Scientific Program

- 3:29-3:33pm **Paper # 83 Impact of Depression on Health Related Quality of Life Outcomes in Surgically Treated Adult Spinal Deformity Patients: A ScolioRisk-1 Sub-analysis**  
*Amit Jain, MD; Floreana Naef Kebaish, MD; Lawrence G. Lenke, MD; Leah Yacat Carreon, MD, MS; Christopher P. Ames, MD; Michael G. Fehlings, MD, PhD, FRCSC; Benny T. Dahl, MD, PhD; Yukihiro Matsuyama, MD; Yong Qiu, MD; Christopher I. Shaffrey, MD; Hossein Mehdiian, MD; Frank J. Schwab, MD; Ferran Pellisé, MD; Kenneth MC Cheung, MD; Khaled M. Kebaish, MD, FRCSC*
- 3:33-3:37pm **Paper # 84 What Drives Improvement in Self-Image after ASD Surgery?**  
*Jeffrey L. Gum, MD; Leah Yacat Carreon, MD, MS; Michael P. Kelly, MD, MS; Amit Jain, MD; Richard Hostin, MD; Justin S. Smith, MD, PhD; Virginie Lafage, PhD; Renaud Lafage, MS; Douglas C. Burton, MD; Frank J. Schwab, MD; Robert A. Hart, MD; Eric O. Klineberg, MD; Christopher I. Shaffrey, MD; Shay Bess, MD; Steven D. Glassman, MD; International Spine Study Group*
- 3:37-3:46pm **Discussion**
- 3:47-3:51pm **Paper # 85 HRQOL Scores Underestimate the Impact of Major Complications in Lumbar Degenerative Scoliosis Surgery**  
*Steven D. Glassman, MD; Keith H. Bridwell, MD; Christopher I. Shaffrey, MD; Charles Cannon Edwards, MD; Jon D. Lurie, MD, MS; Leah Yacat Carreon, MD, MSc*
- 3:51-3:55pm **Paper # 86 Impact of Early Unanticipated Revision Surgery in Health Related Quality of Life in Adult Spine Deformity**  
*Susana Núñez-Pereira, MD, PhD; Ferran Pellisé, MD; Alba Vila-Casademunt, BS, MD, MS; Montse Domingo-Sabat, PhD; Ahmet Alanay, MD; Ibrahim Obeid, MD; Francisco Javier Sanchez Perez-Grueso, MD; Frank Kleinstück, MD; Joan Bagó Granell, MD, PhD; Emre R. Acaroglu, MD; European Spine Study Group (ESSG)*
- 3:55-3:59pm **Paper # 87 Serious Adverse Events Significantly Reduce Patient Reported Outcomes at 2 Year Follow-up: Non-Operative Multicenter Prospective NIH Study of 105 Patients**  
*Andrew J. Pugely, MD; Keith H. Bridwell, MD; Christine R. Baldus, MD; Lukas P. Zebala, MD; Christopher I. Shaffrey, MD; Steven D. Glassman, MD; Oheneba Boachie-Adjei, MD; Stefan Parent, MD, PhD; Stephen J. Lewis, MD, FRCSC, MS; Tyler Koski, MD; Charles Cannon Edwards, MD; Frank J. Schwab, MD; Michael P. Kelly, MD, MS*
- 3:59-4:08pm **Discussion**
- 4:09-4:13pm **Paper # 88 Rates of Recovery and Outcomes after Neurologic Complications in Adult Spinal Deformity Surgery**  
*Han Jo Kim, MD; Sravisht Iyer, MD; Frank J. Schwab, MD; Themistocles S. Protopsaltis, MD; Peter G. Passias, MD; Richard Hostin, MD; Gregory M. Mundis, MD; Vedat Deviren, MD; Christopher I. Shaffrey, MD; Khaled M. Kebaish, MD, FRCSC; Justin S. Smith, MD, PhD; Shay Bess, MD; Christopher P. Ames, MD; Eric O. Klineberg, MD; International Spine Study Group*
- 4:13-4:17pm **Paper # 89 Incidence and Etiology of Unplanned Reoperations following Index Surgery in the Adult Symptomatic Lumbar Scoliosis NIH-Sponsored Clinical Trial**  
*Charles H. Crawford, MD; Steven D. Glassman, MD; Leah Yacat Carreon, MD; Christopher I. Shaffrey, MD; Tyler Koski, MD; Christine R. Baldus, MD; Keith H. Bridwell, MD*
- 4:17-4:21pm **Paper # 90 Effect of Age on Postoperative Complications and Patient Reported Outcomes in Severe Adult Spinal Deformity: Patients ≤60 Years vs. > 60 Years**  
*Amit Jain, MD; Floreana Naef Kebaish, MD; Lawrence G. Lenke, MD; Christopher I. Shaffrey, MD; Michael G. Fehlings, MD, PhD, FRCSC; Benny T. Dahl, MD, PhD; Hossein Mehdiian, MD; Christopher P. Ames, MD; Yukihiro Matsuyama, MD; Yong Qiu, MD; Kenneth MC Cheung, MD; Frank J. Schwab, MD; Leah Yacat Carreon, MD, MSc; Ferran Pellisé, MD; Khaled M. Kebaish, MD, FRCSC*
- 4:21-4:30pm **Discussion**
- 4:31-4:35pm **Paper # 91 Function and Clinical Symptoms are the Main Factors that Drive Thoracolumbar Adult Scoliosis Patients to Pursue Surgery**  
*Javier Pizones, MD; Mar Perez Martin-Buitrago, BS; Francisco Javier Sanchez Perez-Grueso, MD; Ferran Pellisé, MD; Ahmet Alanay, MD; Ibrahim Obeid, MD; Emre R. Acaroglu, MD; Frank Kleinstück, MD; European Spine Study Group (ESSG)*



## Scientific Program

4:35-4:39pm	<b>Paper # 92 Impact of Fatigue on Maintenance of Upright Posture: Dynamic Assessment of Sagittal Spinal Deformity Parameters After Walking 10 Minutes</b> <i>Junseok Bae, MD; Alexander Theologis, MD; Sang-Ho Lee, MD, PhD; Vedat Deviren, MD</i>
4:39-4:43pm	<b>Paper # 93 Outcomes of PVCR Without Anterior Supporting Applied in Treatment of Severe Rigid Thoracic Kyphoscoliosis</b> <i>Yang Junlin, MD, PhD</i>
4:43-4:52pm	<b>Discussion</b>
4:53-4:57pm	<b>Paper # 94 Using PROMIS for Health Related Quality of Life Assessment in Patients with Adult Spinal Deformity</b> <i>Amit Jain; Khaled M. Kebaish, MD, FRCSC; Richard L. Skolasky; Brian James Neuman, MD</i>
4:57-5:01pm	<b>Paper # 95 Ethnic Variations in Surgical Outcomes in Older Adult Spinal Deformity (ASD) Patients: A Comparison between North American and Japanese ASD Patients with 2-year Follow-up</b> <i>Naobumi Hosogane, MD, PhD; Christopher P. Ames, MD; Morio Matsumoto, MD; Mitsuru Yagi, MD, PhD; Yukihiko Matsuyama; Hiroshi Taneichi, MD, PhD; Yu Yamato, MD, PhD; Daisaku Takeuchi, MD; Frank J. Schwab, MD; Christopher I. Shaffrey, MD; Justin S. Smith, MD, PhD; Shay Bess, MD; Virginie Lafage, PhD; International Spine Study Group</i>
5:01-5:05pm	<b>Paper # 96 The Impact of Pre-Operative Supine Radiographs on Surgical Strategy in Adult Spinal Deformity</b> <i>Jeffrey J. Varghese, BS; Ashish Patel, MD; Barthelémy Liabaud, MD; Christopher P. Ames, MD; Justin S. Smith, MD, PhD; Jeffrey L. Gum, MD; Christopher I. Shaffrey, MD; Bassel G. Diebo, MD; Renaud Lafage, MS; Shay Bess, MD; Frank J. Schwab, MD; Virginie Lafage, PhD; Han Jo Kim, MD; International Spine Study Group</i>
5:05-5:14pm	<b>Discussion</b>

## Saturday, September 24, 2016

Session 8: Screening, Bracing, Tethers, Pulmonary, Infection, Miscellaneous

Session Times: 7:55-10:30am

Session Moderators: Kenneth M.C. Cheung, MD & David L. Skaggs, MD

7:55-8:00am	<b>Welcome &amp; Announcements</b>
8:00-8:04am	<b>Paper # 97 A Five Year Investigation of a Two Phase School Screening Program for Adolescent Idiopathic Scoliosis</b> <i>Karen Turner-Bare; Sheri Lynn Dawson, BS; Wendy Novick; Alicia M. McCarthy, RN; Kenneth J. Rogers, PhD; Peter G. Gabos, MD; Suken A. Shah, MD</i>
8:04-8:08am	<b>Paper # 98 Ending School Screening Not Associated with Increased Scoliosis Curve Magnitudes: A Population-Based Study</b> <i>Joshua Jay Thomas, BS; A. Noelle Larson; William J. Shaughnessy, MD; Todd Milbrandt; Anthony A. Stans, MD</i>
8:08-8:12am	<b>Paper # 99 The Value of Magnetic Resonance Imaging in Idiopathic Scoliosis: Systematic Review of the Literature.</b> <i>Dino Colo, MD; Diederik H.R. Kempen, MD, PhD; Moyo C. Kruijt, MD, PhD; Rene M. Castelein, MD, PhD</i>
8:12-8:21am	<b>Discussion</b>
8:22-8:26am	<b>Paper # 100 Curve Progression in Girls with Idiopathic Scoliosis during Juvenile through Adolescent</b> <i>Zhicheng Zhang, MD; Hong Zhang, MD; Daniel J. Sucato, MD, MS</i>
8:26-8:30am	<b>Paper # 101 A Randomized Controlled Trial of Braces fabricated Using Computer Aided Design and Manufacturing (CAD/CAM) and Finite Element Modeling (FEM) for the Conservative Treatment of Adolescent Idiopathic Scoliosis (AIS)</b> <i>Nikita Cobetto, BS, MS; Carl-Eric Aubin, PhD; Stefan Parent, MD, PhD; Soraya Barchi, BS; Isabelle Turgeon, BS; Hubert Labelle, MD</i>
8:30-8:34am	<b>Paper # 102 Is the Story Over: Progression After Bracing in AIS</b> <i>Rachel Mednick Thompson, MD; Elizabeth Walker Hubbard, MD; Don Virostek; Lori Ann Karol, MD</i>
8:34-8:42am	<b>Discussion</b>



## Scientific Program

- 8:43-8:47am **Paper # 103 Long-Term Pulmonary Function After Open Anterior Thoracolumbar Idiopathic Adolescent Scoliosis Surgery**  
*Javier Pizones; Cristina Ruiz Juretschke; Felisa Sánchez-Mariscal, MD, PhD; Lorenzo Zuñiga Gomez, PhD; Renato Delfino, MD; Enrique Izquierdo, MD, PhD*
- 8:47-8:51am **Paper # 104 Progressive Decline in Pulmonary Function 5 Years Post-Operative In Patients Who Underwent Anterior Instrumentation for Surgical Correction of Adolescent Idiopathic Scoliosis**  
*Burt Yaszay, MD; Tracey Bastrom, BS; Baron S. Lonner, MD; Randal R. Betz, MD; Suken A. Shah, MD; Jahangir K. Asghar, MD; Firoz Miyanji, MD, FRCSC; Amer F. Samdani, MD; Peter O. Newton, MD*
- 8:51-8:55am **Paper # 105 Thoracic Volume Correlates with Total Lung Capacity at Minimum of 20-Years Following Treatment of Adolescent Idiopathic Scoliosis**  
*A. Noelle Larson; Po-Chih Lee, MS; Charles Ledonio, MD; David W. Polly, Jr., MD; Michael J. Yaszemski, MD, PhD*
- 8:55-9:05am **Discussion**
- 9:06-9:10am **Paper # 106 Comparison of Three Surgical Approaches for Thoracic Spinal Tuberculosis in Adult: Minimum 5-year Follow-up**  
*Hongqi Zhang, MD; Longjie Wang*
- 9:10-9:14am **Paper # 107 Transpedicular Decompression / Debridement and Posterior Spinal Fusion with Instrumentation for Single Level Thoracic Spinal Tuberculosis with Myelopathy- is Anterior Column Reconstruction Necessary?**  
*Saumyajit Basu; Sri Krishna Chaitanya Kondety; Amitava Biswas; Tarun Suri; Kiran Tapal*
- 9:14-9:18am **Paper # 108 How Lumbar Pedicle Subtraction Osteotomy Change Acetabular Orientation in Ankylosing Spondylitis Patients with Thoracolumbar Kyphosis?**  
*Bangping Qian, MD; Jun Hu; Yong Qiu, MD; Bing Wang, MD, PhD; Yang Yu, MD, PhD; Ze-zhang ZHU, MD; Hao Liu, MD, PhD; Jun Jiang, MD*
- 9:18-9:27am **Discussion**
- 9:28-9:32am **Paper # 109 Assessment of the Non-Fused Lumbar Segments in Terms of Facet and Disc Degeneration after Surgical Treatment of Scheuermann Kyphosis; an MRI Study**  
*Sinan Kahraman, MD; Ozcan Kaya, MD; Gurkan Gumussuyu, MD; Ayhan Mutlu, MD; Onur Levent Ulusoy, MD; Bulent Guneri, MD; Gokhan Peker, MD; Fehmi Doruk Kuran, MD; Bekir Yavuz Ucar, PhD; Meric Enercan, MD; Ufuk Talu, MD; Azmi Hamzaoglu, MD*
- 9:32-9:36am **Paper # 110 Surgical Treatment of Scheuermann's Kyphosis. Comparison of Results by Posterior-only Thoracic Pedicle Screw Fixation versus Combined Anterior/Posterior Fusion in a Large Multicenter Study.**  
*Guillaume Riouallon; Christian Morin; Ibrahim Obeid, MD; Christophe Vidal, MD; Jean-Luc Clément, MD; Sébastien Pesenti, MD; Stéphane Henri Wolff, MD*
- 9:36-9:40am **Paper # 111 Successes and Failures Following Spinal Growth Tethering for Scoliosis - A Retrospective Look 2 to 4 Years Later**  
*Peter O. Newton, MD; Wataru Saito, MD, PhD; Burt Yaszay, MD; Carrie E. Bartley; Tracey Bastrom, BS*
- 9:40-9:49am **Discussion**
- 9:50-9:54am **Paper # 112 Obesity is Associated with Increased Thoracic Kyphosis in Adolescent Idiopathic Scoliosis Patients and Normal Adolescents**  
*Vidyardhar V. Upasani, MD; Tracey Bastrom, BS; Fredrick G. Reighard; Carrie E. Bartley; Suken A. Shah, MD; Burt Yaszay, MD; Peter O. Newton, MD*
- 9:54-9:58am **Paper # 113 ISYQOL Discriminates Adolescents with Spinal Deformities Subgroups Better than the SRS-22 questionnaire**  
*Stefano Negrini, PhD; Antonio Caronni, MD, PhD; Sabrina Donzelli, MD; Luciana Sciume, MD; Fabio Zaina, MD*
- 9:58-10:02am **Paper # 114 Bone Mineral Status After Surgery for Adolescent Idiopathic Scoliosis at Mean 30 Years Follow-Up**  
*Masayuki Ohashi, MD; Kei Watanabe, MD, PhD; Toru Hirano, MD, PhD; Hirokazu Shoji, MD; Naoto Endo, MD, PhD*
- 10:02-10:11am **Discussion**



## Scientific Program

10:12-10:20am **Transfer of Presidency: David W. Polly, Jr., MD & Kenneth M.C. Cheung, MD**

10:20-10:30am **Awards Presentations:**  
 Russell A. Hibbs Awards  
 Louis A. Goldstein Awards  
 John H. Moe Awards  
*Justin S. Smith, MD*

10:30-10:50am **Break**

### Session 9: Sagittal Spino-Pelvic Alignment, Spondylolisthesis

10:50am-12:39pm

Moderators: Hubert Labelle, MD & Jahangir K. Asghar, MD

- 10:50-10:54am **Paper # 115 Full-Body Analysis of Age-Adjusted Alignment in Adult Spinal Deformity Patients and Lower-Limb Compensation**  
*Cyrus M. Jalai; Dana Leslie Cruz, BS; Bassel G. Diebo, MD; Gregory Wyatt Poorman; Renaud Lafage, MS; Shay Bess, MD; Subaraman Ramchandran, MD; Louis Marcel Day, BS; Shaleen Vira, MD; Barthelémy Liabaud, MD; Jensen K. Henry; Frank J. Schwab, MD; Virginie Lafage, PhD; Peter G. Passias, MD*
- 10:54-10:58am **Paper # 116 Under-Correction of Sagittal Deformities Based on Age-Adjusted Alignment Thresholds Leads to Worse HRQOL While Over-Correction Provides No Additional Benefit**  
*Justin K. Scheer, BS; Renaud Lafage, MS; Barthelémy Liabaud, MD; Frank J. Schwab, MD; Justin S. Smith, MD, PhD; Gregory M. Mundis, MD; Richard Hostin, MD; Christopher I. Shaffrey, MD; Christopher P. Ames, MD; Douglas C. Burton, MD; Han Jo Kim, MD; Shay Bess, MD; Munish Chandra Gupta, MD; Virginie Lafage, PhD; International Spine Study Group*
- 10:58-11:02am **Paper # 117 Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence**  
*Gregory M. Mundis, MD; Robert K. Eastlack, MD; Praveen V. Mummaneni, MD; David O. Okonkwo, MD, PhD; Stacie Nguyen; Adam Kanter, MD; Neel Anand, MD; Paul Park, MD; Pierce D. Nunley, MD; Juan S. Uribe, MD; Joseph M. Zavatsky, MD; Dean Chou, MD; Vedat Deviren, MD; International Spine Study Group*
- 11:02-11:11am **Discussion**
- 11:12-11:16am **Paper # 118 New Classification of Sagittal Spine Alignment : The Updated Roussouly Classification Radiographic Study in 296 Asymptomatic Adults**  
*Fethi Laouissat, MD; Pierre Roussouly, MD*
- 11:16-11:20am **Paper # 119 Compensation Mechanism of Sagittal Spinopelvic Alignment in Volunteers**  
*Hiroki Ushirozako; Go Yoshida, MD; Tomohiko Hasegawa, MD, PhD; Yu Yamato, MD, PhD; Sho Kobayashi, MD, PhD; Tatsuya Yasuda, MD; Tomohiro Banno, MD; Shin Oe, MD; Yuki Mihara, MD; Kenta Kurosu, MD; Daisuke Togawa, MD; Yukihiro Matsuyama*
- 11:20-11:24am **Paper # 120 Deteriorations of Sagittal Spinopelvic Parameters and Quality of Life of Elderly Volunteers: Analyses in Different Genders and Among Different Age Groups in Longitudinal Cohort Study**  
*Daisuke Togawa; Tomohiro Banno, MD; Tomohiko Hasegawa, MD, PhD; Yu Yamato, MD, PhD; Sho Kobayashi, MD, PhD; Tatsuya Yasuda, MD; Shin Oe, MD; Yuki Mihara, MD; Kenta Kurosu, MD; Yukihiro Matsuyama*
- 11:24-11:33am **Discussion**
- 11:34-11:38am **Paper # 121 T1 Pelvic Angle is a Useful Parameter for Postoperative Evaluation in Adult Spinal Deformity Patients.**  
*Tomohiro Banno, MD; Tomohiko Hasegawa, MD, PhD; Yu Yamato, MD, PhD; Sho Kobayashi, MD, PhD; Daisuke Togawa, MD; Shin Oe, MD; Yuki Mihara, MD; Kenta Kurosu, MD; Yukihiro Matsuyama*
- 11:38-11:42am **Paper # 122 Measurement of Spinopelvic Angles on Prone Intraoperative Long-cassette Lateral Radiographs Predict Postoperative Standing Global Alignment in Adult Spinal Deformity Surgery**  
*Jonathan H. Oren, MD; Louis Marcel Day, BS; Joseph Baker; Norah Anne Foster, MD; Michael J. Moses; Subaraman Ramchandran, MD; Dana Leslie Cruz, BS; Cyrus M. Jalai; Gregory Wyatt Poorman; Ryan Cassilly, MD; Aaron James Buckland; Peter G. Passias, MD; Shay Bess, MD; Thomas J. Errico, MD; Themistocles S. Protopsaltis, MD*

## Scientific Program

11:42-11:46am	<b>Paper # 123 Preoperative T1 Slope More than 40° is a Cause of Deteriorated C7 Sagittal Vertical Axis in Adult Spinal Deformity Surgery: Minimum of 2 Years Follow-up</b> <i>Shin Oe, MD; Yu Yamato, MD, PhD; Daisuke Togawa, MD; Tomohiko Hasegawa, MD, PhD; Sho Kobayashi, MD, PhD; Tomohiro Banno, MD; Yuki Mihara, MD; Kenta Kurosu, MD; Yukihiro Matsuyama</i>
11:46-11:55am	<b>Discussion</b>
11:56am-12:00pm	<b>Paper # 124 An Updated Analysis of Gravity Line with Pelvic and Lower Limb Compensation: Now Where Do We Stand?</b> <i>Virginie Lafage, PhD; Ibrahim Obeid, MD; Renaud Lafage, MS; Barthelemy Liabaud, MD; Jeffrey J. Varghese, BS; Hongda Bao, MD, PhD; Jonathan Charles Elysée; Louis Marcel Day, BS; Dana Leslie Cruz, BS; Subaraman Ramchandran, MD; Shay Bess, MD; Themistocles S. Protopsaltis, MD; Peter G. Passias, MD; Aaron James Buckland; Frank J. Schwab, MD</i>
12:00-12:04pm	<b>Paper # 125 Validation and Simplification of SRS-Schwab Classification</b> <i>Louis Boissiere; Ibrahim Obeid, MD; Emre R. Acaroglu, MD; Anouar Bourghli; Daniel Larrieu, PhD; Ahmet Alanay, MD; Ferran Pellisé, MD; Alba Vila-Casademunt, BS, MD, MS; Francisco Javier Sanchez Perez-Grueso, MD; Frank Kleinstück, MD; Vincent Challier, MD; Jean-Marc Vital; European Spine Study Group (ESSG)</i>
12:04-12:08pm	<b>Paper # 126 Normal Sagittal Parameters of Global Spinal Balance in Children and Adolescents: a Prospective Study of 646 Asymptomatic Subjects</b> <i>Gabriel Gutman, MD; Hubert Labelle, MD; Pierre Roussouly, MD; Soraya Barchi, BS; Eric Berthonnaud, PhD; Jean-Marc Mac-Thiong</i>
12:08-12:17pm	<b>Discussion</b>
12:18-12:22pm	<b>Paper # 127 Natural History of Sagittal Spinal Alignment in Children with Achondroplasia</b> <i>Oussama Abousamra, MD; Tyler Kreitz, MD; John Heydemann, MD; Kenneth J. Rogers, PhD; Colleen Ditro, RN; William Mackenzie, MD; Suken A. Shah, MD</i>
12:22-12:26pm	<b>Paper # 128 New Classification for Degenerative Spondylolisthesis of the Lumbar Spine: a Reliability Study</b> <i>Soufiane Ghailane; Vincent Challier, MD; Houssam Bouloussa, MD, MS; Claudio Vergari, PhD; Go Yoshida, MD; Louis Boissiere, MD; Jean-Marc Vital; Olivier Gille, MD, PhD</i>
12:26-12:30pm	<b>Paper # 129 A Prospective Study of The Improvement in Health-Related Quality of Life Following Surgical Treatment of Lumbosacral Spondylolisthesis in Young Patients.</b> <i>Jean-Marc Mac-Thiong; Hubert Labelle, MD; Stefan Parent, MD, PhD; Michael T. Hresko, MD; Daniel J. Sucato, MD, MS; Lawrence G. Lenke, MD; Michelle Claire Marks</i>
12:30-12:39pm	<b>Discussion</b>
12:39pm	<b>Adjourn</b>

## About SRS

### About SRS

Founded in 1966, the Scoliosis Research Society is an organization of medical professionals and researchers dedicated to improving care for patients with spinal deformities. Over the years, it has grown from a group of 37 orthopaedic surgeons to an international organization of more than 1,200 health care professionals.

### Mission Statement

The purpose of Scoliosis Research Society is to foster the optimal care of all patients with spinal deformities.

### Membership

SRS is open to orthopaedic surgeons, neurosurgeons, researchers and allied health professionals who have a practice that focuses on spinal deformity.

*Active Fellowship* (membership) requires the applicant to have fulfilled a five-year Candidate Fellowship and have a practice that is 20% or more in spinal deformity. Only Active Fellows may vote and hold elected offices within the Society.

*Candidate Fellowship* (membership) is open to all orthopaedic surgeons, neurosurgeons and to researchers in all geographic locations who are willing to commit to a clinical practice which includes at least 20% spinal deformity. Candidate Fellows stay in that category for five years, during which time they must meet all of the requirements and demonstrate their interest in spinal deformity and in the goals of the Society. After five years, those who complete all requirements are eligible to apply for Active Fellowship in the Society. Candidate Fellowship does not include the right to vote or hold office. Candidate Fellows may serve on SRS committees.

*Associate Fellowship* (membership) is for distinguished members of the medical profession including nurses, physician assistants, as well as orthopaedic surgeons, neurosurgeons, scientists, engineers and specialists who have made a significant contribution to scoliosis or related spinal deformities who do not wish to assume the full responsibilities of Active Fellowship. Associate Fellows may not vote or hold office, but may serve on committees.

See website for membership requirement details: [www.srs.org/professional/membership](http://www.srs.org/professional/membership).

### SRS Membership Information Session

Join us and learn more about the Scoliosis Research Society

How to Apply  
Benefits of Membership  
Leadership Opportunities  
Scholarships  
Networking  
Education

The information session will take place during the networking lunch on Thursday, September 22 from 12:35-1:35pm.

### Programs And Activities

SRS is focused primarily on education and research and include the Annual Meeting, the International Meeting on Advanced Spine Techniques (IMAST), Hands-On Courses, Worldwide Conferences, a Global Outreach Program, the Research Education Outreach (REO) Fund which provides grants for spine deformity research, and development of patient education materials.

### Website Information

For the latest information on SRS meetings, programs, activities and membership please visit [www.srs.org](http://www.srs.org). The SRS Website Committee works to ensure that the website information is accurate, accessible and tailored for target audiences. Site content is varied and frequently uses graphics to stimulate ideas and interest. Content categories include information for medical professionals, patients/public, and SRS members.

For more information and printable membership applications, please visit the SRS website at [www.srs.org](http://www.srs.org).

### Society Office Staff

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Executive Director ([tgoulding@srs.org](mailto:tgoulding@srs.org))

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### Scoliosis Research Society

555 East Wells Street, Suite 1100 Milwaukee, WI 53202  
Phone: 414-289-9107  
Fax: 414-276-3349  
[www.srs.org](http://www.srs.org)

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Non-Operative Management	Michael F. Halsey, MD
Patient Education	Jonathan H. Phillips, MD
Pediatric Device TF	Michael G. Vitale, MD
Performance Measures TF	Christopher J. DeWald, MD
Program	Justin S. Smith, MD, PhD
Research Grant	Michael Rosner, MD
Safety & Value	Suken A. Shah, MD
3D Scoliosis TF	Carl-Éric Aubin, PhD, P.Eng
Translation	Munish C. Gupta, MD
Website	Ron El-Hawary, MD
Worldwide Conference	Marinus DeKleuver, MD, PhD

## 2015 Award Recipients

### SRS Awards

#### Lifetime Achievement Awards

Presented to a member who has exhibited long and distinguished service to SRS and to spinal deformity research and care:

Behrooz A. Akbarnia, MD & Randal R. Betz, MD

#### Walter P. Blount Humanitarian Award

Presented for outstanding service to those with spinal deformity, and for generosity to the profession and Society:

S. Rajasekaran, MD, FRCS, MCh, PhD

### IMAST Awards

The Thomas Whitecloud Awards are given to the Best Basic Science and Best Clinical papers presented at IMAST.

#### Whitecloud Award for Best Basic Science Paper

Paper #15: Generation of FBN1 Gene Knockout Pig Model for Marfan Syndrome

Morio Matsumoto, MD; Kota Watanabe, MD; Keisuke Horiuchi, MD, PhD; Kazuhiro Umeyama, PhD; Hiroshi Nagashima, PhD

#### Whitecloud Award for Best Clinical Paper

Paper #3: Pre-operative Predictors of Neurological Motor Decline in Complex Adult Spinal Deformity Surgery: Results of the Prospective, International, Multicenter Scolio-RISK-1 Study in 271 Patients

Michael G. Fehlings, MD, PhD, FRCSC; Lawrence G. Lenke, MD; Christopher I Shaffrey, MD; Branko Kopjar, MD, PhD, MS; Kenneth MC Cheung, MD; Leah Yacat Carreon, MD, MS; Mark B. Dekutoski, MD; Frank J. Schwab, MD; Oheneba Boachie-Adjei, MD, DSc; Khaled M Kebaish, MD; Christopher P. Ames, MD; Yong Qiu, MD; Yukihiro Matsuyama; Benny T. Dahl, MD, PhD; Hossein Mehdian, MD; Ferran Pellisé, MD; Stephen J. Lewis, MD, FRCSC, MS; Sigurd H. Berven, MD

### Annual Meeting Awards

#### Russell A. Hibbs Awards

*The Russell A. Hibbs Award for the Best Basic Research Presentation was presented to Paper #35: Normal Human Spine Growth and Prediction of Final Spine Height Developed from a Longitudinal Cohort of Children Followed Through Their Growth Until Completion by James O. Sanders, MD; Lauren Karbach, MD; Thomas Osinski, BS; Raymond Liu, MD; Xing Qiu, PhD; Daniel Cooperman, MD*

*The winner of the Russell A. Hibbs Award for the Best Clinical Research Presentation was awarded to Paper #42: Influence of Wear Time on Outcome: Results from the Bracing in Adolescent Idiopathic Scoliosis Trial (BrAIST) by Lori A. Dolan, PhD and Stuart L. Weinstein, MD*

#### John H. Moe Award

*The John H. Moe Award is given to the Best Basic Science E-Poster at the Annual Meeting & Course. This year the award was presented to E-Poster #219: Functional Analysis of the Newly Identified Gene Clarified the Pathomechanism of Adolescent Idiopathic Scoliosis by Yoji Ogura, MD; Ikuyo Kou, PhD; Yohei Takahashi, MD, PhD; Katsuki Kono, MD; Noriaki Kawakami, MD; Koki Uno; Manabu Ito, MD; Shohei Minami, MD, PhD; Ikuho Yonezawa, MD; Haruhisa Yanagida, MD; Hiroshi Taneichi, MD, PhD; Kota Watanabe, MD; Taichi Tsuji, MD; Teppei Suzuki, MD; Hideki Sudo, MD, PhD; Toshiaki Kotani, MD, PhD; Naobumi Hosogane, MD, PhD; Eijiro Okada; Kazuhiro Chiba, MD, PhD; Yoshiaki Toyama, MD, PhD; Morio Matsumoto, MD; Shiro Ikegawa, MD, PhD*

#### Louis A. Goldstein Award

*The Goldstein Award is given to the Best Clinical E-Poster at the Annual Meeting & Course. The winner of the Louis A. Goldstein Award was E-Poster #248: Spinal Growth in Normal Children Between 3 and 11 Years Old Using 3D Reconstruction: A Longitudinal Study by Leonie Tremblay; Patrick Tohmé; Marjolaine Roy-Beaudry, MS; Marie Beauséjour, PhD; Hubert Labelle, MD; Stefan Parent, MD, PhD*

## 2015 Research Grant Recipients

The SRS Research Grant Committee would like to congratulate the following 2015 grant recipients:

Title of Project	Primary Investigator/Location	Grant Duration	Type of Grant	Amt. Approved
Induction of Lung Regeneration Following Posterior Spinal Fusion	Brian M. Varisco, MD/ Cincinnati, OH, USA	2 years	SRS – Small Exploratory	\$10,000
Structure and Growth of the Thoracolumbar Spine and Ribs in Normative Pediatric and AIS Subjects – A Comprehensive Multi-Center and Multi-Modal Validation Study	Sriram Balasubramanian, PhD/ Philadelphia, PA, USA	2 years	SRS – Standard Investigator	\$50,000
Markerless 3D Assessment of Severity and Progression of Scoliosis Using Surface Topography	Samer M. Adeeb, PhD, P. Eng/ Edmonton, AB, Canada	2 years	SRS – SpineCraft Standard Investigator	\$30,000
Validation of 3D Ultrasound Measurements with EOS System on Children with AIS	Edmond H. Lou, PhD, P. Eng/ Edmonton, AB, Canada	1 year	SRS – Small Exploratory	\$10,000
MidTerm Outcomes on Patients with AIS Following Spinal Fusion	Mark C. Lee, MD/Hartford, CT, USA	2 years	SRS – Biomet Standard Investigator	\$25,000
Investigating Mechanisms of Kyphoscoliosis in Mice Lacking Site-1 Protease in Osteochondroprogenitor Cells	Debrabrata Patra, PhD/St. Louis, MO, USA	2 years	SRS – K2M Standard Investigator	\$50,000
The Effect of Spinopelvic Parameters on the Development of Proximal Junctional Kyphosis in Early Onset Scoliosis	Ron El-Hawary, MD/Halifax, NS, Canada	1 year	SRS – Small Exploratory	\$9,665
The Influence of BMP9 Expression on the Development of Proximal Junctional Kyphosis in Early Onset Scoliosis in a Mouse Model	Michael J. Lee, MD/Seattle, WA, USA	2 years	SRS – NuVasive New Investigator	\$25,000
Biochemical and Mechanical Intervertebral Disc Profiles in Developmental Spinal Deformities	Arin M. Ellingson, PhD/ Minneapolis, MN, USA	2 years	SRS – SpineCraft New Investigator	\$25,000
Three Dimensional Effects of Bracing in AIS	Kenny Kwan, MD/Hong Kong	1 year	SRS – Small Exploratory	\$10,000
Prospective Multicenter Validation of Frailty Index, Deformity Surgical Invasiveness Index and Predictive Analytic Models for Preoperatively Predicting Intraoperative and Perioperative Complications, LOS and EBL in ASD Surgery	Christopher P. Ames, MD/San Francisco, CA, USA	2 years	SRS – Standard Investigator	\$25,000





# SRS 51<sup>ST</sup> ANNUAL MEETING & COURSE

DELEGATE REGISTRATION FORM

PRAGUE, CZECH REPUBLIC • PRAGUE CONGRESS CENTRE • SEPTEMBER 21-24, 2016

Online Registration Available at:

[www.srs.org/am16](http://www.srs.org/am16)

DELEGATE

ADVANCE REGISTRATION DEADLINE: AUGUST 15, 2016 (*Registrations will ONLY be accepted onsite after this date – no exceptions.*)

## Delegate Information

SRS ID Number First (Given) Name Last (Family) Name Suffix (Jr., III, etc.) Degree (MD, PhD, etc.)

Email Address (All correspondence is done by email)

Institution

Mailing Address

City (To appear on badge) State Zip/Postal Code Country (To appear on badge)

Specialty: ☐ Orthopaedic Surgeon ☐ Neurosurgeon ☐ Other:

Assistant/ Company Personnel Email Address

Dietary Restrictions/Requirements: Please email any special dietary restrictions or other requirements to [meetings@srs.org](mailto:meetings@srs.org)

Please select your registration option. Section 1 includes all CME sessions and Annual Meeting. Section 2 allows you to select from an a la carte list of add-ons. Please note, guest registration needs to be done using the guest registration form at [www.srs.org/am16/registration](http://www.srs.org/am16/registration)

### Section 1 – CME All-Inclusive

This section includes all CME sessions including the general and concurrent scientific sessions, lunchtime symposium, Pre-Meeting Course, Half-Day Course & Networking Lunch, breakfasts, breaks, lunches and the Welcome Reception & Opening Ceremonies on September 21.

### Section 2 – A La Carte

Please select which Non-CME add-ons you would like to register for.

Registration Class	Section 1			Section 2		TOTAL FEES (Section 1 & 2)
	Option 1	Option 2	Option 3	A La Carte		
	**All CME Sessions** Annual Meeting & Course with Half-Day Course Wed-Sat, Sept. 21-24	Annual Meeting & Pre-Meeting Course Wed-Sat, Sept. 21-24	Annual Meeting Thurs-Sat, Sept. 22-24	Hibbs Society Tues, Sept. 20 1:00-5:00pm	Farewell Reception Fri, Sept. 23 7:00-10:00pm	
SRS Fellow- Physician	<input type="checkbox"/> \$ 1030	<input type="checkbox"/> \$ 1000	<input type="checkbox"/> \$ 750	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
SRS Fellow- Non-Physician	<input type="checkbox"/> \$ 580	<input type="checkbox"/> \$ 550	<input type="checkbox"/> \$ 300	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
SRS Emeritus Fellow	<input type="checkbox"/> \$ 580	<input type="checkbox"/> \$ 550	<input type="checkbox"/> \$ 300	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
Non-Member Physician	<input type="checkbox"/> \$ 1230	<input type="checkbox"/> \$ 1200	<input type="checkbox"/> \$ 950	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
Non-Member Non-Physician	<input type="checkbox"/> \$ 630	<input type="checkbox"/> \$ 600	<input type="checkbox"/> \$ 350	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
Resident/ Fellow/ Medical Student	<input type="checkbox"/> \$ 530	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 350	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
Industry Representative	<input type="checkbox"/> \$ 1280	<input type="checkbox"/> \$ 1250	<input type="checkbox"/> \$ 1000	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	
Reduced Rate Countries**	<input type="checkbox"/> \$ 530	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 350	<input type="checkbox"/> \$50	<input type="checkbox"/> \$25	

\*Any base registration selected in section 1 includes entrance to the general and concurrent scientific sessions, lunchtime symposium, breakfasts, breaks, lunches and the Welcome Reception & Opening Ceremonies on Wednesday, September 21.

\*\*For information on countries that qualify for reduced rate registration, please visit <http://www.srs.org/am16>

Please include your total fees from Option 1 or Option 2 and One-Day Registrations.

Registration Class	One Day Registration Sept. 22 Includes Half-Day Course	One Day Registration Sept. 23 Course reception ticket must be requested separately	One Day Registration Sept. 24
	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 250
SRS Emeritus Fellow	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 250
Non-Member Physician	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 250
Non-Member Non-Physician	<input type="checkbox"/> \$ 250	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 250
Resident/ Fellow/ Medical Student	<input type="checkbox"/> \$ 530	<input type="checkbox"/> \$ 250	<input type="checkbox"/> \$ 150
Industry Representative	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 500	<input type="checkbox"/> \$ 250
Reduced Rate Countries**	<input type="checkbox"/> \$ 250	<input type="checkbox"/> \$ 250	<input type="checkbox"/> \$ 150

### Total Fees \$ \_\_\_\_\_

Cancellation Policy: All cancellations must be received in writing. Delegates may fax their cancellation to (414) 276-3349 or email it to [meetings@srs.org](mailto:meetings@srs.org). Delegates will receive a confirmation and refund within 14 days of receipt of their cancellation notice. SRS will grant a full refund, less a 10% processing fee, for cancellations received in writing on or before September 1, 2016. No refunds will be granted after September 1, 2016.

Waiver: Submission of this registration form and payment of associated fee serves as agreement by the delegate to release the Scoliosis Research Society, the Prague Congress Centre and their respective agents, servants, employees, representatives, successors, and assigns, from any and against all claims, demands, causes of action, damages, costs, and expenses, including attorneys' fees, for injury to person or damage to property arising out of attendance at the 51<sup>st</sup> Annual

### Payment Information

Checks (U.S. funds drawn on a U.S. bank only) may be made payable and mailed to: Scoliosis Research Society • 555 E. Wells Street, Suite 1100 • Milwaukee, WI 53202

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# SRS 51<sup>ST</sup> ANNUAL MEETING & COURSE

GUEST REGISTRATION FORM

PRAGUE, CZECH REPUBLIC • PRAGUE CONGRESS CENTRE • SEPTEMBER 21-24, 2016

Online Registration Available at:  
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GUEST

SRS-0216-833

ADVANCE REGISTRATION DEADLINE: AUGUST 15, 2016 (*Registrations will ONLY be accepted onsite after this date – no exceptions.*)

## Guest Information

SRS ID Number	First (Given) Name	Last (Family) Name	Suffix (Jr., III, etc.)	Degree (MD, PhD, etc.)
Email Address (All correspondence is done by email.)				
Institution				
Mailing Address				
City (To appear on badge)		State		
Zip/Postal Code		Country (To appear on badge)		

## I am a guest of the following REGISTERED delegate:

SRS ID Number	First (Given) Name	Last (Family) Name	City
Dietary Restrictions/Requirements: Please email any special dietary restrictions or other requirements to <a href="mailto:meetings@srs.org">meetings@srs.org</a>			

## Please select from Option A or Options B. **\*\*Please note, guests may only select one option.**

Admission to sessions is NOT included with either guest registration options. **Guests wishing to attend the Scientific Sessions should register as a non-member, non-physician utilizing the delegate registration form.**

### Option A: Guest Base Registration Fees

	Advance Registration On or Before August 15, 2016	Onsite Registration September 21-24, 2016
Guest	<input type="checkbox"/> \$300	<input type="checkbox"/> \$350
Farewell Reception Ticket	<input type="checkbox"/> \$25	

Guest Registration Fees: The guest base registration fee includes entrance to the Welcome Reception & Opening Ceremonies on Wednesday, September 21 as well as use of the Guest Hospitality Suite, including breakfast, on Thursday, September 22 through Saturday, September 24. Farewell Reception tickets may be added above and optional tours may be added at an additional charge on the website.

### Option B: A la Carte Guest Registration Fees

Welcome Reception & Opening Ceremonies	Wednesday, September 21 (6:30pm)	<input type="checkbox"/> \$100
Farewell Reception	Friday, September 23 (7:00-10:00pm)	<input type="checkbox"/> \$50

Social Event Registration Fees: The social event fee includes entrance to the Welcome Reception & Opening Ceremonies on Wednesday, September 21 and/ or the Farewell Reception on Friday, September 23. This does not include entrance to the Guest Hospitality Suite, including breakfast, on Thursday, September 22 through Saturday, September 24.

Total Fees \$ \_\_\_\_\_

## Payment Information

Checks (U.S. funds drawn on a U.S. bank only) may be made payable and mailed to: Scoliosis Research Society • 555 E. Wells Street, Suite 1100 • Milwaukee, WI 53202

Or provide credit card information complete with billing address: ☐ Check Enclosed ☐ Visa ☐ MasterCard ☐ American Express

Card number	
Security Code	Expiration Date
Name (As it appears on card)	
Billing Address	
City	State
Zip/Postal Code	Country
Signature (I agree to pay according to the credit card issuer agreement.)	

Cancellation Policy: All cancellations must be received in writing. Delegates may fax their cancellation to (414) 276-3349 or email it to [meetings@srs.org](mailto:meetings@srs.org). Delegates will receive a confirmation and refund within 14 days of receipt of their cancellation notice. SRS will grant a full refund, less a 10% processing fee, for cancellations received in writing on or before September 1, 2016. No refunds will be granted after September 1, 2016.

Waiver: Submission of this registration form and payment of associated fee serves as agreement by the delegate to release the Scoliosis Research Society, the Prague Convention Centre and their respective agents, servants, employees, representatives, successors, and assigns, from any and against all claims, demands, causes of action, damages, costs, and expenses, including attorneys' fees, for injury to person or damage to property arising out of attendance at the 51<sup>st</sup> Annual Meeting &

Course. In addition, the delegate hereby grants permission to use his/her likeness in a photograph or other digital reproduction in any and all of its publications, including website entries, without payment or any other consideration, agreeing that these materials will become the property of SRS which has the right to edit, alter, copy, exhibit, publish or distribute this photo for purposes of publicizing its programs or for any other lawful purpose. Additionally, the delegate waives any right to royalties or other compensation arising or related to the use of the photograph.

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# SRS 51<sup>ST</sup> ANNUAL MEETING & COURSE

GROUP REGISTRATION FORM

PRAGUE, CZECH REPUBLIC • PRAGUE CONGRESS CENTRE • SEPTEMBER 21-24, 2016

Online Registration Available at:

[www.srs.org/am16](http://www.srs.org/am16)

GROUP

ADVANCE REGISTRATION DEADLINE: AUGUST 15, 2016 (*Registrations will ONLY be accepted onsite after this date – no exceptions.*)

SRS-0216-833

## Company/Bill to Information

Company Name

Company Representative

Email Address (Invoice and all confirmations will be sent to this email)

Mailing Address

City

State

Zip/Postal Code

Country (To appear on badge)

## Base Registration Fees

Registration Class	Section 1 CME Sessions			Section 2 Non-CME Add-Ons		TOTAL FEES (Section 1 + 2)
	All CME Sessions** Annual Meeting, Pre-Meeting Course, Half Day Course Wed-Sat, Sept 21-24	Annual Meeting & Pre-Meeting Course Wed-Sat Sept 21-24	Annual Meeting Only Thurs-Sat Sept 22-24	Hibbs Society Tues, Sept 20 1:00- 5:00pm	Farewell Reception Fri, Sept 23 7:00- 10:00pm	
SRS Fellow – Physician	\$ 1030	\$ 1000	\$ 750	\$ 50	\$ 25	
SRS Fellow – Non-Physician	\$ 580	\$ 550	\$ 300	\$ 50	\$ 25	
SRS Emeritus Fellow	\$ 580	\$ 550	\$ 300	\$ 50	\$ 25	
Non-Member Physician	\$ 1230	\$ 1200	\$ 950	\$ 50	\$ 25	
Non-Member Non-Physician	\$ 630	\$ 600	\$ 350	\$ 50	\$ 25	
Resident/Fellow/Medical Student	\$ 530	\$ 500	\$ 350	\$ 50	\$ 25	
Industry Representative	\$ 1280	\$ 1250	\$ 1000	\$ 50	\$ 25	
Reduced Rate Countries*	\$ 530	\$ 500	\$ 350	\$ 50	\$ 25	

**SRS will verify all member types and apply discounts where delegates are eligible.**

\*Any base registration selected in section 1 includes entrance to the general and concurrent scientific sessions, lunchtime symposium, breakfasts, breaks, lunches and the Welcome Reception & Opening Ceremonies on Wednesday, September 21.

\*\*For information on countries that qualify for reduced registration, please visit [www.srs.org/am16/registration](http://www.srs.org/am16/registration)

## Delegate 1

First (Given) Name Last (Family) Name Suffix (Jr., III, etc.) Degree (MD, PhD, etc.)

Delegate Email Address (Must be delegates individual email) Institution

City (To appear on badge) Country (To appear on badge)

Class	All CME Sessions	Annual Meeting & Course	Annual Meeting Only	Hibbs Society	Farewell Reception
SRS Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Rep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Delegate 2

First (Given) Name Last (Family) Name Suffix (Jr., III, etc.) Degree (MD, PhD, etc.)

Delegate Email Address (Must be delegates individual email) Institution

City (To appear on badge) Country (To appear on badge)

Class	All CME Sessions	Annual Meeting & Course	Annual Meeting Only	Hibbs Society	Farewell Reception
SRS Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Rep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Delegate 3

First (Given) Name Last (Family) Name Suffix (Jr., III, etc.) Degree (MD, PhD, etc.)

Delegate Email Address (Must be delegates individual email) Institution

City (To appear on badge) Country (To appear on badge)

Class	All CME Sessions	Annual Meeting & Course	Annual Meeting Only	Hibbs Society	Farewell Reception
SRS Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Rep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Delegate 4

First (Given) Name Last (Family) Name Suffix (Jr., III, etc.) Degree (MD, PhD, etc.)

Delegate Email Address (Must be delegates individual email) Institution

City (To appear on badge) Country (To appear on badge)

Class	All CME Sessions	Annual Meeting & Course	Annual Meeting Only	Hibbs Society	Farewell Reception
SRS Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-Member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Rep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Payment Information

**Group Registration Policy:** All Group Registrations must be completed and submitted by August 1, 2016. Any Pre-Registration name changes can be made through August 15, 2016 at no cost. After August 15 each name change will be charged an administrative fee of \$100 per badge. Any delegate not included on the group registration form will be treated as an individual registration; delegates registered as individuals will not be added to group registration invoices. All delegates must have their own email address listed under their name to ensure certificates of attendance and CME credits are correctly distributed.

Corporate Supporters and/or Exhibitors with complimentary registration codes; please indicate who the code is being applied to by writing the code next the delegate's name. If no codes are written in, complimentary registrations will be applied to delegate registrations in the they are listed on the form.

**Invoices:** An invoice will be provide company/group representative, for groups registering more than 5 delegates, one week post the August 15 name change deadline. This invoice will contain all registration fees for all delegates listed; all invoices must be paid by September 1, 2016. Any registration fees, registration name change fees or add-ons made after August 15 and/or onsite will be invoiced separately. Post meeting invoices will be sent out 4 weeks following the Annual Meeting.

**Cancellation Policy:** All cancellations must be received in writing. Delegates may fax their cancellation to (414) 276-3349 or email it to [meetings@srs.org](mailto:meetings@srs.org). Delegates will receive a confirmation and refund within 14 days of receipt of their cancellation notice. SRS will grant a full refund, less a 10% processing fee, for cancellations received in writing on or before September 1, 2016. No refunds will be granted after September 1, 2016

**Waiver:** Submission of this registration form and payment of associated fee serves as agreement by the delegate to release the Scoliosis Research Society, the Prague Congress Centre and their respective agents, servants, employees, representatives, successors, and assigns, from any and against all claims, demands, causes of action, damages, costs, and expenses, including attorneys' fees, for injury to person or damage to property arising out of attendance at the 51<sup>st</sup> Annual Meeting & Course. In addition, the delegate hereby grants permission to use his/her likeness in a photograph or other digital reproduction in any and all of its publications, including website entries, without payment or any other consideration, agreeing that these materials will become the property of SRS which has the right to edit, alter, copy, exhibit, publish or distribute this photo for purposes of publicizing its programs or for any other lawful purpose. Additionally, the delegate waives any right to royalties or other compensation arising or related to the use of the photograph.

SRS Tax ID #23-7181863

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☐ I do not wish to be included on any published delegate list including programs, mobile apps, etc.







## Corporate Support

We are pleased to acknowledge and thank those companies that provided financial support to SRS in 2015.

Support levels are based on total contributions throughout the year and include the Annual Meeting, IMAST, Global Outreach Scholarships, Edgar Dawson Memorial Scholarships, SRS Traveling Fellowships and the Research Education Outreach (REO) Fund.

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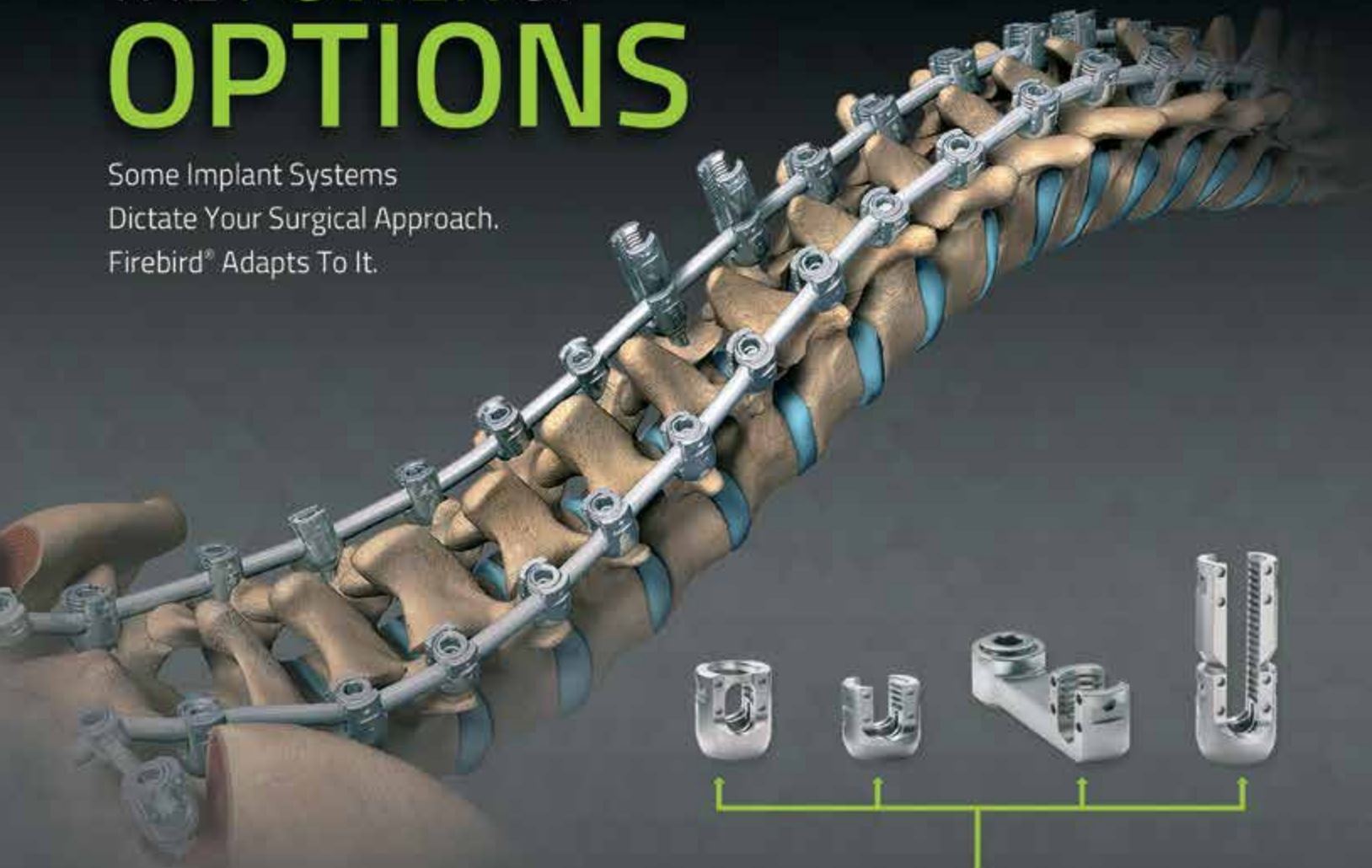


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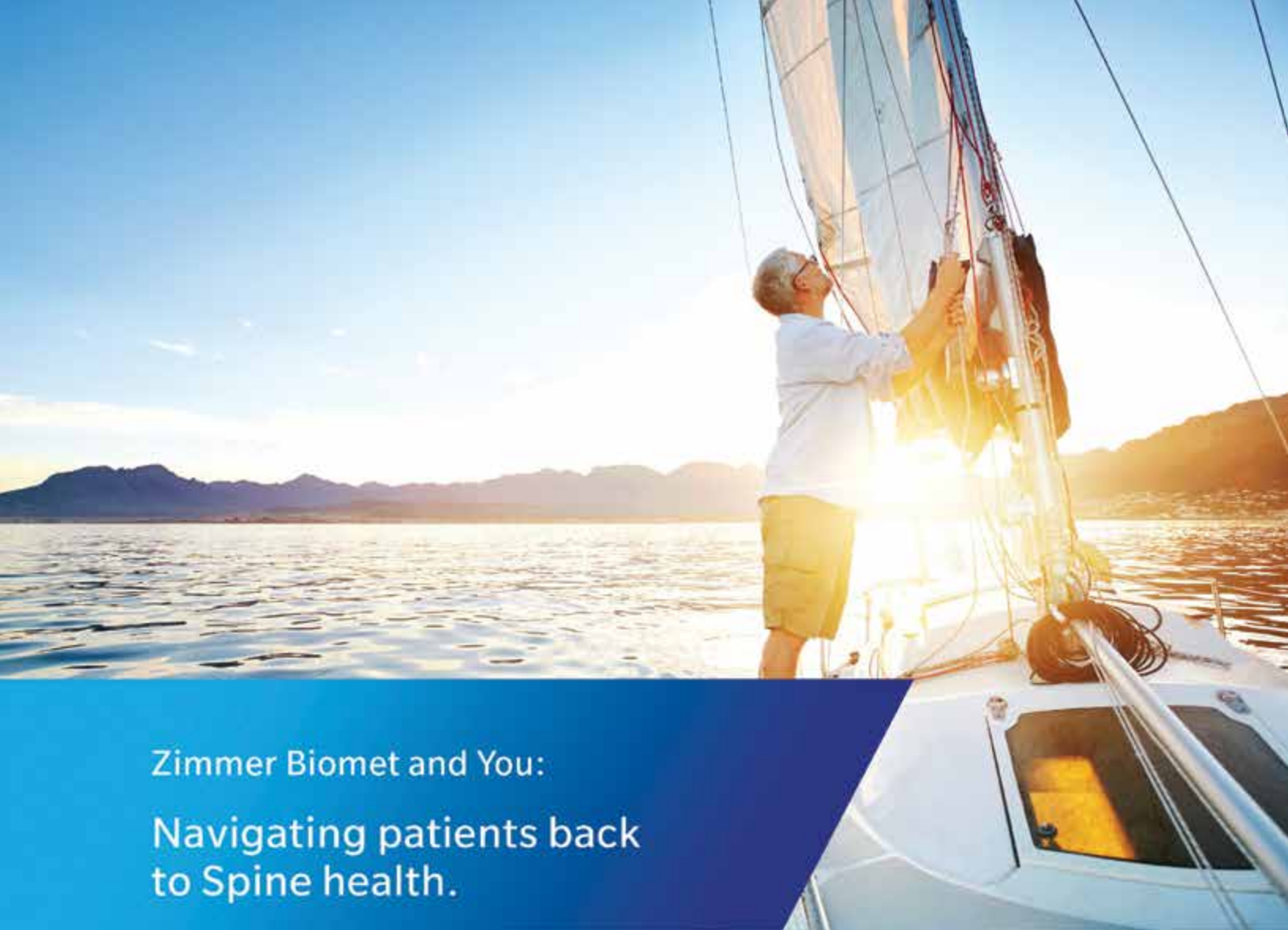
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