



50TH ANNIVERSARY MSTS ANNUAL MEETING FINAL PROGRAM



Francis Y. Lee, MD, PhD
MSTS President



Francis Hornicek Jr, MD, PhD
2026 Program Chair



Brooke Crawford, MD
2026 Program Co-Chair



Nicola Fabbri, MD
2026 Program Co-Chair

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October 28 - 31, 2026

JW Marriott Turnberry Conference Center – Miami, Florida

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The Musculoskeletal Tumor Society extends sincere appreciation to the following sponsors for their generous support of the MSTS 2026 Annual Meeting.

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50TH ANNIVERSARY MSTs ANNUAL MEETING



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THANK YOU

2026 MUSCULOSKELETAL TUMOR SOCIETY ANNUAL MEETING PROGRAM COMMITTEE

Francis J. Hornicek Jr, MD, PhD – Program Chair

Megan Anderson, MD
Cecelia Belzarena, MD, MPH, PhD
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Matthew DiCaprio, MD
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Shervin Oskouei, MD
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Steven Thorpe, MD, FACS
Julia Visgauss, MD
Melissa Zimel, MD

YOUR OPINION MATTERS TO MSTs

Please complete the Meeting Evaluation Survey.



ACKNOWLEDGMENTS

With Gratitude

MSTS extends our sincere appreciation to everyone who participated in the
MSTS 2026 Innovation Course

at the Miami Anatomical Research Center (MARC) in Doral on Wednesday, October 28th.



A very special thanks to **Dr. Eduardo Sadao Yonamine** and his wonderful team for their help with planning, scheduling, and assisting our sponsors and attendees.

Developed under the leadership of program planners, **Drs. Ginger Holt** and **Santiago Lozano-Calderon**, the faculty sharing their expertise with attendees were:

Odion Binitie, MD
Alan Blank, MD, MS
Matt Cable, MD
Alexandra Callan, MD
Brooke Crawford, MD
Ian English, MD
Krista Goulding, MD, MPH
Ginger Holt, MD
David Joyce, MD

Valerae Lewis, MD
Santiago Lozano-Calderon, MD PhD
Nathan Mesko, MD
Lukas Nystrom, MD
Thomas Scharschmidt, MD
Thomas Temple, MD
Julia Visgauss, MD
Rosanna Wustrack, MD

Thanks also to your sponsors!
Without your financial and equipment support, this course would not have been possible.

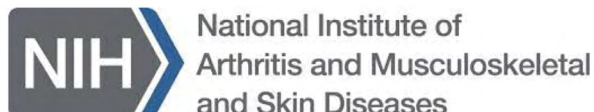
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Carbofix Orthopedics, Inc.
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Insight Surgery
Medtronic
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Stryker
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50TH ANNIVERSARY MSTS ANNUAL MEETING

Thank you to the supporters of the
MSTS Early-Stage Investigator Program



Conference Code of Ethics and Family/Child Care Room

Consistent with NIH Grants Policy Statement and Federal civil rights laws, it is expected that organizers of NIH-supported conferences and scientific meetings take steps to maintain a safe and respectful environment for all attendees by providing an environment free from discrimination and harassment.

Refrain from negative stereotyping or derogatory comments regarding gender, race, religion, age, or disability.

A Family & Child Care Room will be available during the conference.

The Association of American Medical Colleges (AAMC) expects all meeting and conference participants—including general public attendees, vendors, and guests—to adhere to strict codes of professional conduct, respect intellectual property, and maintain the privacy of unreleased scientific data or personal health information shared during sessions.

**The Family/Child Care Room is located in Magnolia 4101.
Please pick up the key from the MSTS Registration Table.**

Welcome!

Dear MSTS Members, Colleagues, International Partners, and Honored Guests,

It is with immense pride, profound gratitude, and great excitement that we welcome you to the monumental **50th Anniversary Annual Meeting of the Musculoskeletal Tumor Society**, taking place from October 28 to October 31, 2026, at the magnificent JW Marriott Miami Turnberry Conference Center.



Reaching our golden jubilee is a monumental milestone. For half a century, the MSTS has stood at the vanguard of musculoskeletal oncology, driving clinical excellence, pioneering surgical innovations, and fostering a deeply collaborative community dedicated to improving the lives of our patients. As we gather to celebrate our contributions and impact this October, we also look boldly toward the future of our specialty.



An Unprecedented Annual Meeting Program: Thanks to the tireless leadership of our Program Chair and Local Host, Dr. Francis J. Hornicek (University of Miami Orthopaedic Chair, 2010 MSTS Secretary, and 2022-2024 ISOLS President), alongside our dedicated Annual Meeting Program Committee, we have curated an extraordinary three-day scientific, educational, and cultural program. This year's schedule reflects the breadth, depth, and evolving frontiers of our field, featuring: Educational Instructional Invited Expert Talks led by global authorities in orthopaedic oncology; Original Research Podium and Poster Sessions; Hands-On Technical Innovation Workshops; Multi-disciplinary Tumor Board; Grantsmanship Session; and Molecular-Immuno Oncology Sessions. Two

Presidential Invited Scholars are mentors and researchers in orthopaedic biomedical engineering research (Dr. Brian Snyder, Harvard Medical School) and molecular immune-oncology (Dr. Evanthia Galanis, Mayo Clinic), who will provide in-person mentorship to the MSTS Early-Stage Investigators. We will host a formal 50th Anniversary Ceremony that will honor the **'impactful contributions'** of MSTS members. At the receptions, which will be accompanied by musical performances, we will deepen our unity towards the 100th year.

Fostering MSTS Early-Stage Investigators (ESIs): A core focus of my presidential term has been investing directly in the future leaders of our society. For the first time in our history, our Annual Meeting proudly incorporates major support from the **National Institute of Arthritis, Musculoskeletal and Skin Diseases (NIAMS)** and the **National Cancer Institute (NCI) R13 Conference Grant**, as well as the **Orthopaedic Research and Education Foundation (OREF)**, the **American Academy of Orthopaedic Surgeons (AAOS)**, and the **Musculoskeletal Transplantation Foundation (MTF)**. These partnerships have enabled us to build targeted programming, grants, and mentorship pathways specifically tailored to support our Early-Stage Investigators (ESIs) who will guide the MSTS over the next decade and beyond. Suggestions from the MSTS members and Research Committee led us to establish an MSTS Early-Stage Investigator Enrichment Program. One MSTS ESI EP Award (\$25,000 for 3 years) will be given to a committed MSTS ESI in 2026, 2027, and 2028. We hope to continue this new initiative beyond 2029.

Global Collaboration & Community: True to our mission, this milestone meeting welcomes esteemed colleagues from our international partner societies—including EMSOS, APMSTS, SLATME, ISOLS, CTOS, and Brazil—whose presence underscores the truly global impact of our unity.



50TH ANNIVERSARY MSTS ANNUAL MEETING

Furthermore, in alignment with our commitment to maintaining a safe, inclusive, and professional environment, our conference strictly adheres to federal guidelines and professional codes of conduct, ensuring a respectful space for all attendees, guests, and families.

Thank you for your unwavering dedication, your brilliant contributions, and your continued support of MSTS. This is your society, and it is your passion that shapes our legacy.

Welcome to our 50th Annual Meeting—let us celebrate fifty years of impactful contributions and look forward to the breakthroughs yet to come!

Warmest regards,

Francis Y. Lee, M.D., Ph.D., honMBA

Wayne O. Southwick Professor with Tenure, Yale University School of Medicine

President, Musculoskeletal Tumor Society (MSTS), 2025–2026



PROGRAM AT A GLANCE

Program at a Glance

THURSDAY, OCTOBER 29, 2026

7:00 – 8:00 am

Breakfast

King Ballroom – Exhibit Hall

8:10 – 10:00 am

SESSION 1

Garden Room

Molecular Orthopaedic Oncology

Essential Molecular Oncology & Immuno-Oncology for Orthopaedic Oncologists
(Invited Expert Talk - 'IET' 1 – 3)

PRESIDENTIAL INVITED SCHOLAR

EVANTHIA GALANIS, MD

Executive Dean of Development,
The Sandra J. Schulze Professor
Mayo School of Medicine



Garden Room

Evanthia Galanis, MD, is an internationally recognized expert in neuro-oncology and a clinician-investigator with a long-standing interest in developing novel therapeutic approaches for cancer. Dr. Galanis' practice-changing clinical research includes multiple national phase 2 and randomized phase 2/3 clinical trials of novel therapeutics for primary brain tumors and brain metastases. These trials include some of the first individualized medicine trials in neuro-oncology through the North Central Cancer Treatment Group and the Alliance for Clinical Trials in Oncology. Dr. Galanis' research laboratory is developing and optimizing novel immunovirotherapy treatment approaches. Dr. Galanis served as the principal investigator in multiple phase 1 and 2 immunovirotherapy trials for ovarian cancer, glioblastoma, renal cell carcinoma, colorectal cancer, melanoma, hepatocellular carcinoma and other solid tumors. She also spearheaded the clinical translation of measles derivatives and their first human testing in people with ovarian cancer, breast cancer and brain tumors. In addition, she led the first human use of live cell carriers for oncolytic virus delivery. Dr. Galanis has a special research interest in clinical trial endpoints and innovative trial designs. Her work has received support from the National Cancer Institute (NCI). Dr. Galanis has been involved as a Project Leader in several Specialized Programs of Research Excellence (SPOR) grants at Mayo Clinic, including SPORs for brain cancer, ovarian cancer and breast cancer. She is a co-principal investigator of the Center of Innovation for Brain Tumor Therapeutics at Mayo Clinic under the Glioblastoma Therapeutics Network (GTN).

Osteosarcoma I (Papers 1 – 6)

Garden Room

Osteosarcoma II (Papers 7 – 12)

Garden Room

10:00 – 10:30 am

Exhibits & Poster Viewing

Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers



50TH ANNIVERSARY MSTS ANNUAL MEETING

10:30 – 11:30 am	SESSION 2 NIAMS/NCI/OREF/AAOS/MTF Early-Stage Investigator Session (IET 4 – 8) MSTS ESI Traveling Award Recipient Panelists	<i>Garden Room</i>
11:30 am – 12:00 pm	SESSION 3 Grantsmanship & NIH/OREF Mock Study Section: Untold Inside Stories of the Grant Review Panels (IET 9 - 10) Mock Study Section for ESI (Paper 13)	<i>Garden Room</i>
12:00 – 12:40 pm	Industry Innovation Symposium I No CME D1 Inhibrx D2 Deciphera Pharmaceuticals D3 US WorldMeds D4 Zimmer-Biomet	<i>King Ballroom – Exhibit Hall</i>
12:40 – 1:30 pm	Lunch, Poster Viewing, and Exhibits	<i>Exhibits – King Ballroom, Garden and East Foyers</i> <i>Posters – South and West Foyers</i>
1:30 – 2:40 pm	SESSION 4 Poster Award Finalist Presentations Top 8 Posters by Early-State Investigators (Posters 1 - 8) Top 8 Posters by Established Investigators (Posters 9 - 16)	<i>Garden Room</i>
2:50 – 3:40 pm	SESSION 5 Chondrosarcoma (Papers 14 – 20)	<i>Garden Room</i>
3:45 – 4:50 pm	SESSION 6 Pediatric Orthopaedic Oncology & Biological Reconstruction (Papers 21 – 30)	<i>Garden Room</i>
5:00 – 6:00 pm	Break, Poster Viewing, and Exhibits	<i>Exhibits – King Ballroom, Garden and East Foyers</i> <i>Posters – South and West Foyers</i>
6:00 – 8:00 pm	MSTS 50th Anniversary Reception Celebrating 50 Years (No additional fee)	<i>Cascata Pool</i>



PROGRAM AT A GLANCE, CONTINUED

FRIDAY, OCTOBER 30, 2026

7:00 – 8:00 am	MSTS Business Meeting – No CME	King Ballroom
8:00 – 10:00 am	SESSION 7 Metastases (IET 11 – 13)	Garden Room
	<p>PRESIDENTIAL INVITED SCHOLAR BRIAN SNYDER, MD, PHD</p> <p>Maurice Edmond Mueller Distinguished Professor of Orthopedic Surgery at Harvard Medical School, Orthopedic Surgeon at Boston Children's Hospital, OREF Vice President & Grant Committee Chair</p> <p>Brian Snyder, MD, PhD, is a renowned pediatric orthopaedic surgeon and accomplished translational scientist. With clinical expertise in treating congenital and acquired musculoskeletal deformities, his research spans bone biomechanics, fracture prevention, spine injury mechanisms, and advanced imaging technologies. As Principal Investigator at the Center for Advanced Orthopaedic Studies, he has secured funding from NIH, NASA, DoD, and private foundations, advancing understanding of scoliosis, metabolic bone disease, and cartilage degeneration. A dedicated mentor, Dr. Snyder has trained over 50 pre- and post-doctoral researchers and received the A. Clifford Barger Excellence in Mentoring Award. Most remarkably, Dr. Snyder has been using computational biomechanical modeling before AI/ML became popular in the academic world. Dr. Snyder has been serving on the NIH Grant Review Panels for more than 20 years. Dr. Brian Snyder is supervising the OREF Grant Review Panels.</p>	Garden Room
	Metastases I (Papers 31 – 37)	Garden Room
	Metastases II (Papers 38 – 44)	Garden Room
10:00 – 10:30 am	Exhibits & Poster Viewing	Exhibits – King Ballroom, Garden and East Foyers Posters – South and West Foyers
10:30 – 11:40 am	SESSION 8 Pelvis & Spine (IET 14 – 18), (Papers 45 – 48)	Garden Room
11:40 am – 12:00 pm	SESSION 9 Interactive Multi-Disciplinary Tumor Board 2 Unknown Cases (Papers 49 – 50)	Garden Room
12:00 – 12:40 pm	Industry Innovation Symposium II No CME D5 EMD Serono D6 SpringWorks Therapeutics, Inc. D7 Stryker	King Ballroom – Exhibit Hall



50TH ANNIVERSARY MSTS ANNUAL MEETING

FRIDAY, OCTOBER 30, 2026

12:40 – 1:30 pm	Lunch, Poster Viewing, and Exhibits	<i>Exhibits – King Ballroom, Garden and East Foyers Posters – South and West Foyers</i>
1:30 – 2:35 pm	SESSION 10 Digital Health, AI, Robotics, Engineering (IET 19 – 20), (Papers 51 – 57)	<i>Garden Room</i>
2:40 – 3:40 pm	SESSION 11 Controversies in Soft Tissue Tumors (IET 21 – 22), (Papers 58 – 63)	<i>Garden Room</i>
3:50 – 4:50 pm	Ceremony: Celebrating 50 Years	<i>Garden Room</i>
4:50 – 5:50 pm	Break, Poster Viewing, and Exhibits	<i>Exhibits – King Ballroom, Garden and East Foyers Posters – South and West Foyers</i>
6:30 – 9:00 pm	MSTS 50th Anniversary Gala Dinner: Towards the 100th Year	<i>Magnolia Courtyard</i>

SATURDAY, OCTOBER 31, 2026

7:00 – 8:00 am	Breakfast	<i>King Ballroom – Exhibit Hall</i>
8:00 – 9:30 am	SESSION 12 Surgical Techniques (IET 23 – 25), (Papers 64 – 72)	<i>Garden Room</i>
9:30 – 10:00 am	SESSION 13 Benign Tumors (Papers 73 – 76)	<i>Garden Room</i>
10:00 – 10:30 am	Exhibits & Poster Viewing	<i>Exhibits – King Ballroom, Garden and East Foyers Posters – South and West Foyers</i>
10:30 am – 12:00 pm	SESSION 14 Disasterplasty and Complications (IET 26 – 28), (Papers 77 – 86) Announcement of Awards	<i>Garden Room Garden Room</i>
12:10 – 2:00 pm	Lunch and Poster Viewing MSTS-Industry-Global Networking	<i>Exhibits – King Ballroom, Garden and East Foyers Posters – South and West Foyers</i>
2:00 – 4:00 pm	Group Networking	<i>Garden Room</i>
4:00 pm	Adjourn	

GENERAL INFORMATION

General Information

MSTS Meeting Registration

Garden Foyer

Registration Hours

Wednesday, October 28 3:00 pm – 6:30 pm
Thursday, October 29 6:30 am – 5:00 pm
Friday, October 30 7:00 am – 5:00 pm
Saturday, October 31 7:00 am – Noon

WiFi

Network: **JWMarriott_Conference**
Password: **MSTS2026**

General Sessions

Garden Rooms

Full abstracts of the papers presented can be viewed on the MSTS website. Scan this QR code:



Posters

Locations: *South Foyer*, *West Foyer* and *Back of General Session Room*

Posters will be on display beginning at 6:00 am Thursday, October 29 through the close of the 2026 Annual Meeting on Saturday, October 31.

Exhibit Locations

Breakfast, Lunch and Session Breaks – *King Ballroom*
Garden Foyer and *East Foyer*

Exhibit Hours

Thursday, October 29 7:00 am to 6:30 pm
Friday, October 30 7:00 am to 6:30 pm
Saturday, October 31 7:00 am to 11:00 am

Nurses & Allied Health Professionals Symposium

Sabal Rooms 1 & 2

Thursday, October 29, 2026 8:15 am – 4:30 pm (Agenda on page 12)

MSTS Annual Meeting CME Credit

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Academy of Orthopaedic Surgeons and the Musculoskeletal Tumor Society. The American Academy of Orthopaedic Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

The American Academy of Orthopaedic Surgeons designates the Musculoskeletal Tumor Society (MSTS) Annual Meeting, October 28-31, 2026 in Miami, Florida (live activity) for a maximum of **XX AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.



50TH ANNIVERSARY MSTS ANNUAL MEETING

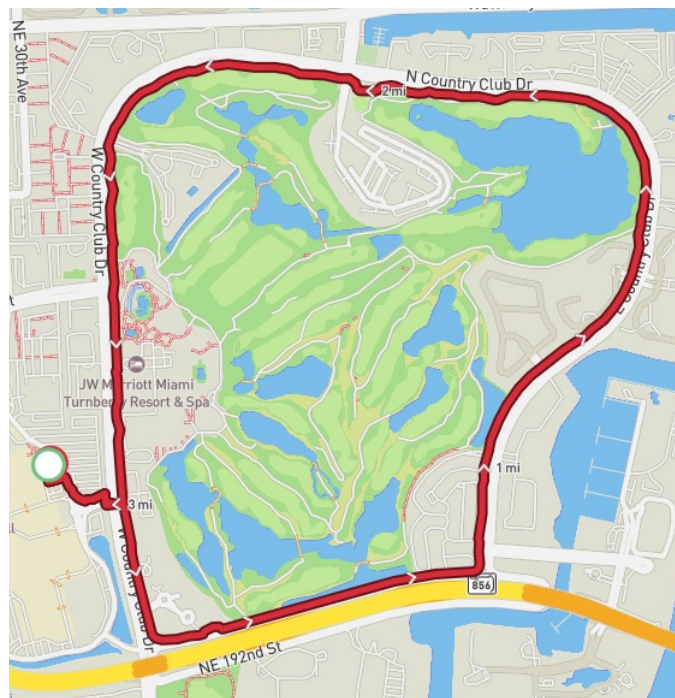
Social Events - Social events open to attendees and registered guests (*badge required*)

Wednesday, October 28 6:00 pm – 8:00 pm *Magnolia Courtyard at the JW Marriott*
NIAMS/NCI/OREF/AAOS/MTF R13 Program Reception
Bridging the Past, Present and Future

Thursday, October 29 6:00 pm – 8:00 pm *Cascata Pool at the JW Marriott*
MSTS 50th Anniversary Reception: Celebrating 50 Years
*Sponsored Exclusively by **Insight Surgery***

Friday, October 30 6:30 pm – 9:00 pm *Magnolia Courtyard at the JW Marriott*
MSTS 50th Anniversary Gala Dinner: Towards the 100th Year

Saturday, October 31 6:30 am *Meet in Hotel Lobby*
MSTS Fun Run
(Run will take place on Don Soffer Exercise Trail)



MSTS Member Business Meeting

Friday, October 30 7:00 am – 8:00 am *King Ballroom*
Vote on proposed bylaws changes.
Outgoing Presidential Address – Francis Y. Lee, MD, PhD
Incoming Presidential Address – Matthew R. DiCaprio, MD

Family/Child Care Room

Magnolia 4101
The Family/Child Care Room is located in *Magnolia 4101*. Please pick up the key from the MSTs Registration Table.

MSTS Nurse and Allied Health Professionals Symposium

THURSDAY, OCTOBER 29, 2026

JW Marriott Turnberry, Miami, Florida

8:15 – 8:30 am	Welcome <i>Andi Banet, PA-C, Jody Roth, RN, Brandi Nunn, RN</i>	<i>Sabal 1 & 2</i>
8:30 – 9:15 am	Caring for the AYA Sarcoma Patient: Clinical Challenges, Survivorship and Multidisciplinary Care <i>Lauren Staley, APRN</i>	
9:15 – 10:00 am	Topic: Bone Lesions of Unknown Origin: From Initial Workup to Impending Fracture <i>Christopher Collier, MD</i>	
10:00 – 10:30 am	Break 1	
10:30 – 11:15 am	Internal Pelvic Resections: A Navigational Approach <i>Andre Spiguel, MD</i>	
11:15 am – 12:00 pm	Compassion Fatigue and Difficult Conversations in Orthopaedic Oncology Care <i>Christa Librizzi, MD</i>	
12:00 – 12:40 pm	Innovation Symposium	
12:40 – 1:45pm	Lunch	
1:45 – 2:30 pm	A Navigational Approach to Active Military Patients <i>Dustin Lybeck, MD</i>	
2:30 – 3:15pm	Demystifying TGCT <i>Christina Gutowski, MD</i>	
3:15 – 3:45 pm	Break 2	
3:45 – 4:30 pm	Caring for Children with Limb Differences <i>Ryan Mooney, PA-C</i>	
3:45 – 4:30 PM	Round Table <i>Andi Banet, PA-C, Jody Roth, RN, Brandi Nunn, RN</i>	
4:30 pm	Closing Remarks <i>Andi Banet, PA-C, Jody Roth, RN, Brandi Nunn, RN</i>	



50TH ANNIVERSARY MSTS ANNUAL MEETING

Musculoskeletal Tumor Society Nurse and Allied Professionals Symposium Learner Notification

Acknowledgement of Financial Commercial Support

No financial commercial support was received for this educational activity.

Acknowledgement of In-Kind Commercial Support

No in-kind commercial support was received for this educational activity.

Satisfactory Completion

Learners must complete an evaluation form to receive a certificate of completion. Your chosen sessions must be attended in their entirety. Partial credit of individual sessions is not available. If you are seeking continuing education credit for a specialty not listed below, it is your responsibility to contact your licensing/certification board to determine course eligibility for your licensing/certification requirement.

Joint Accreditation Statement



In support of improving patient care, this activity has been planned and implemented by Amedco LLC and Musculoskeletal Tumor Society. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Amedco Joint Accreditation Provider Number: 4008163

Professions in scope for this activity are listed below.

Nurses

Amedco LLC designates this activity for a maximum of **5.25 ANCC contact hours**.

Physician Assistants

Amedco has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria. This activity is designated for **5.25 AAPA Category 1 CME credits**. PAs should only claim credit commensurate with the extent of their participation.



Objectives - After Attending This Program You Should Be Able To

1. Evaluate current multidisciplinary approaches to the care of patients with orthopedic oncology conditions, including adolescent and young adult (AYA) sarcoma, survivorship considerations, and complex surgical interventions.
2. Apply evidence-based strategies for the assessment, coordination, and delivery of patient- and family-centered care for individuals with musculoskeletal tumors, limb differences, and other orthopedic oncology diagnoses across the continuum of care.
3. Identify techniques to enhance professional resilience, address compassion fatigue, and improve communication during difficult conversations with patients, families, and interdisciplinary team members in orthopedic oncology practice.

Disclosure of Conflict of Interest

The following table of disclosure information is provided to learners and contains the relevant financial relationships that each individual in a position to control the content disclosed to Amedco. All of these relationships were treated as a conflict of interest, and have been mitigated in accordance with S3: 1-5, JAC 12c.

All individuals in a position to control the content of CE are listed below:

Andi Banet	NA	Ryan Mooney	NA
Christopher Collier	NA	Brandi Nunn	NA
Christina Gutowski	NA	Jody Roth	NA
Christa Librizzi	NA	Andre Spiguel	NA
Dustin Lybeck	NA	Lauren Staley	NA
Kerri Mink	NA	Naomi Terlouw	NA

How to Get Your Certificate

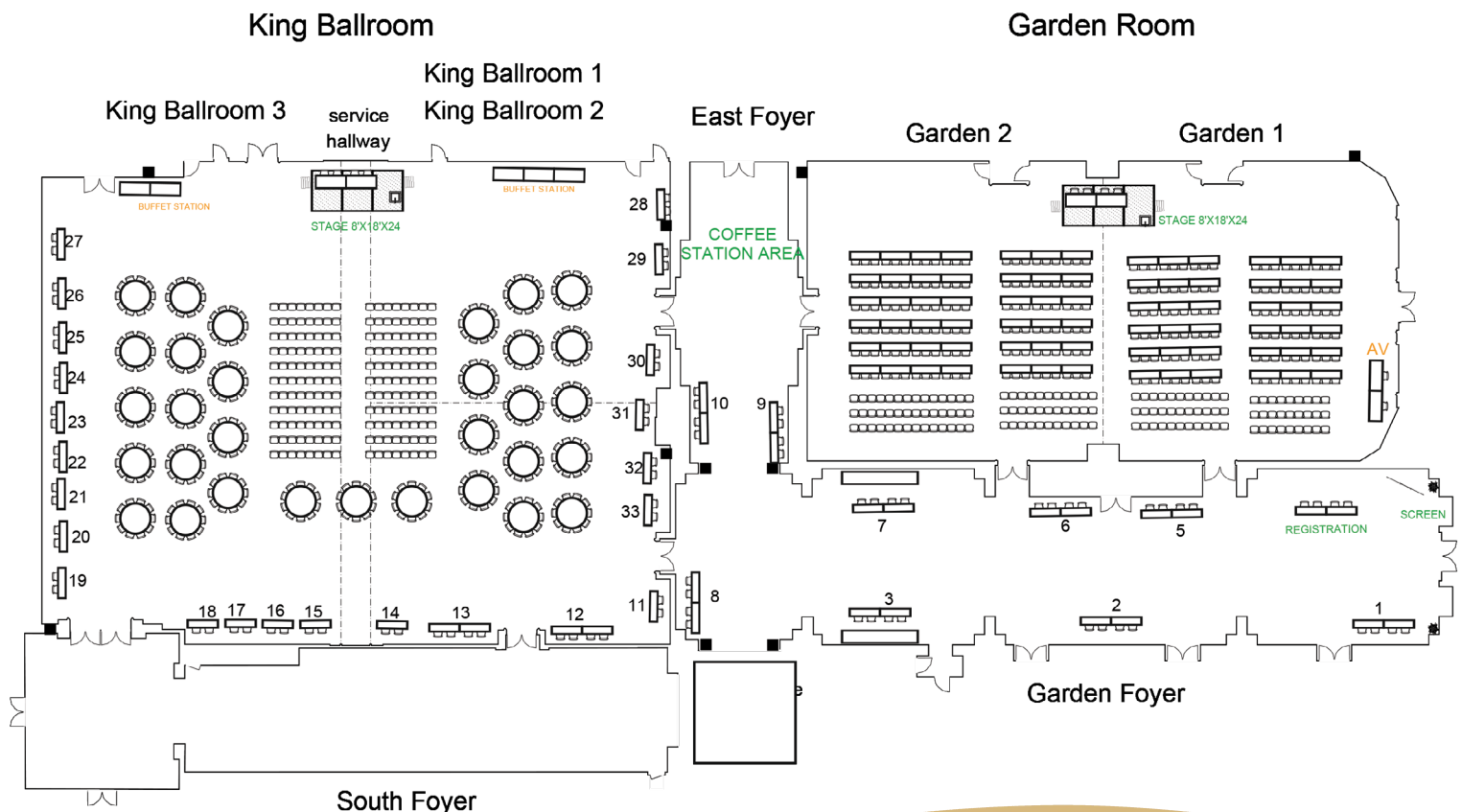
1. Go to msts.cmecertificateonline.com
2. Click on the **2026 Nurse and Allied Professionals Symposium** link.
3. Evaluate the meeting.
4. Print, download, or save your certificate for your records.
5. If you lose your certificate, or need help, go to help.cmecertificateonline.com

Exhibitors

King Ballroom

MSTS gratefully acknowledges the following exhibitors for their support of the 2026 Annual Meeting:

3D-Side (Table 32)	EMD Serono (Table 8)	Onkos Surgical (Table 10)
3D Systems (Table 20)	Flow-FX (Table 17)	Oxford Performance Materials, Inc. (Table 25)
Aadi Bio (Table 24)	IlluminOss Medical, Inc. (Table 12)	restor3d (Table 29)
Adler Ortho USA (Table 18)	Implantcast North America (Table 13)	Signature Orthopaedics USA (Table 22)
Biocomposites (Table 21)	Inhibrx Biosciences, Inc. (Table 1)	SpringWorks Therapeutics (Table 7)
Bone Solutions, Inc. (Table 28)	Insight Surgery (Table 27)	Stryker (Table 2)
Boston Scientific (Table 19)	Integrum, Inc (Table 26)	US WorldMeds (Table 3)
Carbofix Orthopedics, Inc. (Table 14)	Link (Table 15)	Vector Surgical (Table 33)
CurvaFix, Inc. (Table 31)	Medtronic (Table 30)	Zimmer Biomet (Table 6)
Daiichi Sankyo, Inc. (no exhibit table)	Merete Technologies, Inc. (Table 16)	
Deciphera Pharmaceuticals (Table 5)	MTF Biologics (Table 23)	
DePuy Synthes (Table 9)	Natera (Table 11)	





Industry Innovation Symposium Presentations

King Ballroom

Please make plans to join the Industry Innovation Presentations by our 2026 Diamond Sponsors on Thursday and Friday during lunchtime in the Exhibit Hall (*King Ballroom*).

Industry Innovation Symposium I Thursday, October 29 Noon – 12:40 pm

Diamond Sponsor - Inhibrx Biosciences, Inc.

Title: Innovation Through Engineering: The Inhibrx Approach to DR5

Presenter: *Robert Boothroyd, PharmD, Vice President – Medical Affairs and Business Development*

Diamond Sponsor – Deciphera Pharmaceuticals, Inc.

Title: Continuing Innovation in Tenosynovial Giant Cell Tumor (TGCT): Clinical Data for a CSF1R Inhibitor

Presenter: *Thomas Lechner, PhD, Vice President, Global Medical Affairs at Deciphera*

Diamond Sponsor – US WorldMeds

Title: An Innovative Treatment for Advanced Synovial Sarcoma

Presented by: *Philippas Costa, MD*

Diamond Sponsor – Zimmer Biomet

Title: Comprehensive Solutions for Segmental Bone Loss in Limb Surgery

Presenter: *Danielle Brown, MD – UC Davis*

Industry Innovation Symposium II Friday, October 30 Noon – 12:40 pm

Diamond Sponsor – EMD Serono

Title: Tenosynovial Giant Cell Tumor

Presenter: *Dipam Doshi, PharmD, Medical Director, US Medical Affairs*

Diamond Sponsor – SpringWorks Therapeutics, Inc.

Title: Consider Medical Management for Desmoid Tumors

Presenter: *Dipam Doshi, PharmD, Medical Director, US Medical Affairs*

Diamond Sponsor – Stryker

Title: Radiofrequency Ablation in the Management of Painful Bone Metastasis

Presenter: *John deVries, MD – City of Hope Cancer Center, Duarte, CA*

Please note CME is not provided for Industry Innovation Symposium Presentations.



50TH ANNIVERSARY MSTs ANNUAL MEETING

J.W. Marriott Turnberry Conference Center, Miami FL • October 28 - 31, 2026

Francis Hornicek Jr, MD, PhD, Program Chair

Francis Y. Lee, MD, PhD, MSTs President

EDUCATIONAL OBJECTIVES

- To learn the most up-to-date clinical information on the diagnosis and management of primary bone and soft tissue tumors.
- To learn the most up-to-date clinical information on the diagnosis and management of metastatic cancers to bone.
- To learn pathophysiology of bone and soft tissue tumors.

ANNUAL MEETING AGENDA

THURSDAY, OCTOBER 29, 2026

7:00 – 8:00 am

Breakfast

King Ballroom – Exhibit Hall

8:10 – 10:00 am

SESSION 1

Garden Room

Molecular Orthopaedic Oncology

Moderators: *Thomas Temple, MD, Meagan Tibbo, MD, MS, Susan McDowell, MD, Doug Letson, MD*

Essential Molecular Oncology & Immuno-Oncology for Orthopaedic Oncologists

IET 1 **Growth Factor Signaling in Osteosarcoma: Mechanisms and Therapeutic Implications** (5 min)
Bang Hoang, MD

IET 2 **Tumor Microenvironment** (5 min)
David Clever, MD

IET 3 **Immuno-Viral-Therapy in Cancer** (10 min)
Evanthia Galanis, MD
Presidential Invited Scholar

Q&A (10 min)

AGENDA

THURSDAY, OCTOBER 29, 2026

Osteosarcoma I

Garden Room

Moderators: *William Eward, MD, Nicholas Tedesco, MD, Zachary Burke, MD*

- Paper 1 **Poisoning the Clot: Dominant-Negative Fibrinogen Permits Osteosarcoma Metastasis**
Stephen Chenard, MSc
- Paper 2 **Withdrawn at Request of the Submitter**
- Paper 3 **Neuropilin-2 as a Therapeutic Target in Osteosarcoma: Spatial Transcriptomics and in Vivo Testing of a Clinic-Ready Anti-Neuropilin-2 Antibody**
Sung-Suk Chae, PhD
- Paper 4 **PNKP Inhibition Demonstrates Selective Activity in PTEN-Deficient Osteosarcoma Is Enhanced by NRF2 Blockade**
Joseph Kendal, MD, FRCSC
- Paper 5 **DNA Methylation Analysis of Undifferentiated Pleomorphic Sarcoma of Bone**
Duncan Ramsey, MD, MPH
- Paper 6 **Evolution-Informed Extinction Therapy: A Novel Treatment for Osteosarcoma**
William Eward, MD, DVM

Q&A (10 min)

Osteosarcoma II

Garden Room

Moderators: *Michael Monument, MD, FRCSC, Thomas Scharschmidt, MD, Matthew Hess, MD*

- Paper 7 **Translational Evaluation of ALDH and MMP-9 Expression in Osteosarcoma: Insights into Chemotherapy Response and Survival from a Single-Center Cohort**
Ana Valeria Rigolino Teixeira, MD
- Paper 8 **Advanced Transcriptomic Analysis of SPP1 in Osteosarcoma: A Potential New Therapeutic Target?**
Sung-Suk Chae, PhD
- Paper 9 **Immune Cell Composition and Chronic Inflammation Association in Primary High-Grade Osteosarcoma**
Rosanna Wustrack, MD
- Paper 10 **Evolving Toward Precision Oncology in Osteosarcoma**
Zachary Burke, MD
- Paper 11 **Withdrawn at Request of the Submitter**
- Paper 12 **Withdrawn at Request of the Submitter**

Q&A (10 min)



MSTS 2026 ANNUAL MEETING

AGENDA, CONTINUED

THURSDAY, OCTOBER 29, 2026

10:00 – 10:30 am Exhibits & Poster Viewing

*Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers*

10:30 – 11:30 am

SESSION 2

Garden Room

NIAMS/NCI/OREF/AAOS/MTF Early-Stage Investigator Session

Moderators & Mentors: *Francis Lee, MD, PhD, Nicholas Bernthal, MD,
Regis O'Keefe, MD, PhD, Eric Henderson, MD*

- IET 4** Introduction of MSTS ESI Programs & Traveling Award Recipients (5 min)
*Francis Y. Lee, MD, PhD,
NIH R13 Grant Principal Investigator, MSTS President*
- IET 5** Clinician Scholarly Pathway (7 min)
Regis O'Keefe, MD, PhD
- IET 6** Advocacy for Early-Stage Investigators (7 min)
Brian Snyder, MD
- IET 7** Developing Clinical Proficiency for Complex Cases at Your First Job (7 min)
Nathan Mesko, MD
- IET 8** Building Academic Orthopaedic Oncology Practice:
Chair's & ESI's Perspectives? (7 min)
Nicholas Bernthal, MD

Discussion: *Panel & Audience (25 min)*

MSTS ESI Traveling Award Recipient Panelists:

Julia Visgauss, MD	Joshua Lawrenz, MD
Zachary Burke, MD	Michael Colello, MD
Drew Ormseth, MD	Duncan Ramsey, MD, MPH
Alexander Christ, MD	Ahmed Aoude, MD, FRCS
Christopher Collier, MD	Anthony Bozzo, MD, PhD, FRCS
Alexander Lazarides, MD	Stephen Chenard, MSc
David Clever, MD	Cecelia Belzarena, MD, MPH, MBA, PhD
Joseph Ippolito, MD	





50TH ANNIVERSARY MSTs ANNUAL MEETING

THURSDAY, OCTOBER 29, 2026

11:30 am – 12:00 pm **SESSION 3**

Garden Room

Grantsmanship & NIH/OREF Mock Study Section: Untold Inside Stories of the Grant Review Panels

Study Section Chair: *Regis O'Keefe, MD, PhD*

Panel Members: *Francis Lee, MD, PhD, Nicholas Bernthal, MD, Michelle Ghert, MD, FRCSC, Kurt Weiss, MD, Eric Henderson, MD, Bang Hoang, MD, Richard Terek, MD, FACS, Parker Gibbs, MD, Brian Snyder, MD, PhD, Evanthia Galanis, MD*

IET 9 **How to Write the Best Translational Research Grant Proposal?** (5 min)
Kurt Weiss, MD

IET 10 **How to Prepare the Best Real-world Clinical Research Grant?** (5 min)
Michelle Ghert MD, FRCSC

Discussion and Q&A (5 min)

Mock Study Section for ESI

Paper 13 **(Research Grants: Specific Aim + 6 Page Approach)**
Tumor-Related Fibrinolysis as a Mechanism and Therapeutic
Target in Osteosarcoma Metastases (3 min Presentation; 12 min Discussion = 15 min)
Stephen Chenard, MSc

12:00 – 12:40 pm **Industry Innovation Symposium I – No CME**

King Ballroom – Exhibit Hall

Moderators: *Julia Visgauss, MD, Richard Terek, MD, FACS, Francis Lee, MD, PhD, Matthew DiCaprio, MD*

D1 **Inhibrx Biosciences, Inc.**
Innovation Through Engineering: The Inhibrx Approach to DR5 (8 min)
Robert Boothroyd, PharmD, Vice President – Medical Affairs and Business Development

D2 **Deciphera Pharmaceuticals, Inc.**
Continuing Innovation in Tenosynovial Giant Cell Tumor (TGCT):
Clinical Data for a CSF1R Inhibitor (8 min)
Thomas Lechner, PhD, Vice President, Global Medical Affairs at Deciphera

D3 **US WorldMeds**
Continuing Innovation in Tenosynovial Giant Cell Tumor (TGCT):
Clinical Data for a CSF1R Inhibitor (8 min)
Philippus Costa, MD

D4 **Zimmer Biomet**
Comprehensive Solutions for Segmental Bone Loss in Limb Surgery (8 min)
Danielle Brown, MD – UC Davis

Discussion (8 min)

THURSDAY, OCTOBER 29, 2026

12:40 – 1:30 pm

Lunch, Poster Viewing, and Exhibits

*Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers*

1:30 – 2:40 pm

SESSION 4

Garden Room

Poster Award Finalist Presentations

Top 8 Posters by Early-State Investigators

Study Section Chair: *Regis O’Keefe, MD, PhD*

Moderators (Program Committee/Judges): *Brooke Crawford, MD (Chair), Julia Visgauss, MD, Steven Thorpe, MD, FACS, Shervin Oskouei, MD, Melissa Zimel, MD, Santiago Lozano-Calderon, MD, PhD*

- Poster 1 **Reconstructing the Irreparable: A Novel Approach to Femoral Head Defects After Chondroblastoma Curettage** (2 min)
Ceceilia Belzarena, MD, MPH, MBA
- Poster 2 **What Factors are Associated with Amputation Versus Continued Limb Salvage Following Implant Removal in Lower Extremity Endoprosthetic Reconstruction?** (2 min)
Michael Colello, MD
- Poster 3 **Venous Thromboembolism (VTE) in Patients with Metastatic Bone Disease Versus Malignant Primary Bone or Soft Tissue Tumors** (2 min)
Pablo Andres Patino, MD
- Poster 4 **Diagnostic Performance of Interventional Radiology and Surgical Biopsies for Musculoskeletal Lesions** (2 min)
Danielle Brown, MD
- Poster 5 **MRI Misses Residual Sarcoma: Pathologic Correlation After Re-Excision of Tumor Bed** (2 min)
Drew Ormseth, MD
- Poster 6 **When Cartilage Misleads: Fibrocartilaginous Mesenchymoma Mimicking Chondrosarcoma on Core Biopsy** (2 min)
Julian Emerson Dilley, MD
- Poster 7 **When the Implant Is Not the Problem: Decision Points to Prevent Soft-Tissue Failure After Hemipelvic Endoprosthetic Re-construction** (2 min)
Ziyi Zhao, MD
- Poster 8 **Hemiarthroplasty Versus Total Hip Arthroplasty for Metastatic Bone Disease of the Proximal Femur** (2 min)
Matthew Yeager
- Q&A + Discussion (14 min)



50TH ANNIVERSARY MSTS ANNUAL MEETING

THURSDAY, OCTOBER 29, 2026

Top 8 Posters by Established Investigators

Garden Room

Moderators (Program Committee/Judges): *Nicola Fabbri, MD (Chair), Ginger Holt, MD, Eugene Jang, MD, Yvette Ho, MD, Thomas Scharschmidt, MD, Chris Collier, MD, Joshua Lawrenz, MD*

- Poster 9** **Posterior Chest Wall Angiosarcoma with Dynamic Scapular Reconstruction Using a Trapezius Osteo-muscular Rotational Flap (2 min)**
Adeem Nachabe, MD
- Poster 10** **Deltoid Reconstruction with Functional Pedicled Bipolar Pectoralis Major Muscle Flap for Shoulder Abduction and Flexion (2 min)**
Lahin Amlani, MD
- Poster 11** **Modified Compress Technique for Intercalary Limb Salvage in Children with Bone Sarcomas (2 min)**
Raffi Avedian, MD
- Poster 12** **Successful Glenoid Reconstruction Using a Distal Tibial Osteochondral Allograft Following Wide Resection of a Scapular Chondrosarcoma: A Case Report (2 min)**
Anna A. Khachatrian, MD
- Poster 13** **3D-Printed Cutting Guides for Joint Preservation of a Rare Juxtarticular BCOR Sarcoma of the Proximal Tibia and Multidisciplinary Care Approach (2 min)**
Shachar Kenan, MD
- Poster 14** **A Propensity Matched Analysis of 1,101 Patients with Tenosynovial Giant Cell Tumor Undergoing TKA: Impact of Prior Surgical Resection and Pexidartinib Usage on Complications (2 min)**
Amy Zeller, MD
- Poster 15** **Primary Versus Secondary Patellar Resurfacing in Oncologic Megaprosthesis Knee Reconstruction: A Multi Institutional Retrospective Cohort Analysis (2 min)**
Alan T. Blank, MD, MS
- Poster 16** **Surgical Management of Metastatic Bone Disease: En bloc Resection with or without Reconstruction (2 min)**
Yang-Guk Chung, MD

Q&A + Discussion (14 min)

THURSDAY, OCTOBER 29, 2026

2:50 – 3:40 pm

SESSION 5

Garden Room

Chondrosarcoma

Moderators: *Yvette Ho, MD, Gregory Domson, MD, Daniel Wurtz, MD*

- Paper 14** **Prognostic Role of TERT Mutations in Chondrosarcoma: Association with Dedifferentiated Tumors and Survival Outcomes**
Thomas Temple, MD
- Paper 15** **ASPH Blockade Abrogates Doxorubicin Induced Chemo-Resistance in Chondrosarcoma**
Richard Terek, MD, FACS
- Paper 16** **Targeting DNMT3B Reveals an Epigenetic Vulnerability in Chondrosarcoma**
David Clever, MD (ESI)
- Paper 17** **Impact of Surgical Margins in Chest Wall Chondrosarcomas: A CanSaRCC Study**
Aaron Gazendam, MD, FRCSC
- Paper 18** **When an Intra-Articular Process is More Than It Appears: Malignant Transformation of Synovial Chondromatosis to Chondrosarcoma**
Julian Emerson Dilley, MD (ESI)
- Paper 19** **The Tetravalent Death Receptor 5 (DR5) Agonist Ozekibart (IN-BRX-109) in Conventional Chondrosarcoma: Secondary Efficacy Endpoints from the Randomized, Registrational, Phase 2 ChonDRAGON Study**
Robin L. Jones, MD
- Paper 20** **Does Pain Signal Malignancy?: Investigating the Reliability of Pain Symptoms in Predicting Chondrosarcoma**
Alexander Lazarides, MD (ESI)

Q&A (15 min)

3:45 – 4:50 pm

SESSION 6

Garden Room

Pediatric Orthopaedic Oncology & Biological Reconstruction

Moderators: *Valerae Lewis, MD, Lee Zuckerman, MD*

- Paper 21** **EWSR1-FLI1-Associated Cohesin and DNA Damage Response Dependencies Identified by Pan-Cancer CRISPR Profiling in Ewing Sarcoma**
Brandon Gettleman, MD
- Paper 22** **Targeting Glutamine Metabolism to Enhance Radiosensitivity in Ewing**
Brittany Simone, DO



50TH ANNIVERSARY MSTs ANNUAL MEETING

THURSDAY, OCTOBER 29, 2026

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|----------|--|--------------------|
| Paper 23 | Characterization of the NK Regulatory Landscape in the Tumor Environment of Pediatric Sarcomas
<i>Adrian Ibanez-Navarro, MD</i> | <i>Garden Room</i> |
| Paper 24 | Beyond RECIST: Prognostic Value of Soft-Tissue Volume Reduction in Ewing Sarcoma
<i>Julian Emerson Dilley, MD</i> | |
| Paper 25 | Compression of Intercalary Allografts with Magnetic Lengthening Nails, Mid-Term Results with a Comparison of Techniques
<i>Lee Zuckerman, MD</i> | |
| Paper 26 | All Internal Distraction Osteogenesis after Tumor Resection with Magnetic Intramedullary Nails
<i>Lee Zuckerman, MD</i> | |
| Paper 27 | Appositional Bone Growth is a Risk for Aseptic Loosening Following Lower Extremity Endoprosthetic Reconstruction in Pediatric Bone Sarcoma Patients
<i>Michael Colello, MD</i> | |
| Paper 28 | Reverse Total Shoulder Arthroplasty Improves Function Compared to Hemiarthroplasty in Pediatric Proximal Humerus Tumor Reconstruction: A Multicenter Study
<i>Spencer M. Richardson, MD</i> | |
| Paper 29 | True Infection is Rate Despite Extensive Workup for Postoperative Fever After Pediatric Extremity Sarcoma Surgery
<i>Rajul Gupta, MD</i> | |
| Paper 30 | Why the Rotationplasty Patient-Powered Registry Is Crucial for Shared Decision Making: “We Need as Much Research as We Can Get!”
<i>Janet E. Panoch, PhD</i> | |

Q&A (15 min)

5:00 – 6:00 pm

Break, Poster Viewing, and Exhibits

*Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers*

6:00 – 8:00 pm

MSTS 50th Anniversary Reception Celebrating 50 Years

Cascata Pool



FRIDAY, OCTOBER 30, 2026

7:00 – 8:00 am MSTS Business Meeting – No CME *King Ballroom*

8:00 – 10:00 am **SESSION 7** *Garden Room*

Metastases

Moderators: *Matthew Cable, MD, Meredith Bartelstein, MD, Lisa Ercolano, MD, David King, MD*

- IET 11** **Metastatic Cancer-Bone-Muscle Interactions** (5 min)
Christopher Collier, MD
- IET 12** **Predicting Pathologic Fracture Risk on Imaging Studies: Translating Biomechanics to Clinical Practice** (10 min)
Brian Snyder, MD, PhD
Presidential Invited Scholar
- IET 13** **Minimally Invasive Intervention & Science for Skeletal Metastases: Pushing the Limit** (5 min)
Francis Y. Lee, MD, PhD

Q&A (5 min)

Metastases I

Garden Room

- Paper 31** **Minimally Invasive Pelvic Fixation of Pelvic Metastases Using CT-Assisted Surgical Navigation is Associated with Predictable Pain Relief and Durable Restoration of Skeletal Stability and Function**
Nicola Fabbri, MD
- Paper 32** **Long-Term Functional Outcomes and Survival Following Intramedullary Nailing of Pathological Diaphyseal Tibial Fractures**
Sonia Ubong, MBBS
- Paper 33** **No Difference in Medical or Surgical Complications After Long and Short Intramedullary Nail Fixation for Pathological Pertrochanteric Femur Fractures**
Otitochukwu Ezeonu, MD
- Paper 34** **Predictors of Survival After Prophylactic Femoral Fixation for Metastatic Bone Disease: Where You Live Matters**
Brian Benyamini
- Paper 35** **Construct Durability, Revision Burden, and Resource Use After Fixation Versus Endoprosthetic Reconstruction for Appendicular Metastatic Bone Disease**
Christopher Hamad, MD
- Paper 36** **The Proximal Femur Reconstruction or Internal Fixation for Metastases (PERFORM) International Randomized Controlled Trial**
Michelle Ghert, MD, FRCSC



50TH ANNIVERSARY MSTS ANNUAL MEETING

FRIDAY, OCTOBER 30, 2026

Paper 37 Prophylactic eFLASH Pulmonary Radiation Inhibits Lung Metastases and Improves Survival in Murine Soft-Tissue Sarcoma Metastatic Model
Vincent Ng, MD

Garden Room

Q&A (10 min)

Metastases II

Garden Room

Paper 38 Long-Term Outcomes of Denosumab Therapy and Treatment Discontinuation in Patients with Bone Metastases
Atsushi Mihara, MD

Paper 39 A Risk Stratification Tool Based on Inflammatory and Nutritional Biomarkers to Predict Early Mortality After Surgery for Appendicular Bone Metastases
Ana Valeria Rigolino Teixeira, MD

Paper 40 PathFx vs Modified Tokumashi Score for Survival Prediction in Metastatic Bone Disease of the Spine
Divakar N. Lal, MD

Paper 41 Integrated Patient-Reported Outcomes and Passive Mobility Monitoring Following Metastatic Bone Disease Surgery: A Prospective Study of Feasibility and Early Recovery Patterns
Joseph Kendal, MD, FRCSC

Paper 42 Central Nervous System Tropism in CIC-Rearranged Sarcoma: A Rationale for Upfront Screening
Julia Visgauss, MD

Paper 43 Impact of Radiation Therapy on Skeletal-Related Events in Renal Cell Carcinoma Patients Receiving Immune Checkpoint Inhibitors: A Retrospective Cohort Study
Alan T. Blank, MD, MS

Paper 44 Bone Metastases in Soft Tissue Sarcoma: Natural History, Prognostic Factors, and Genomic Characterization in a Modern Cohort
Madeline Rieker, MD

Q&A (10 min)

10:00 – 10:30 am

Exhibits & Poster Viewing

*Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers*

FRIDAY, OCTOBER 30, 2026

10:30 – 11:40 am

SESSION 8

Garden Room

Pelvis & Spine

Moderators: *Lukas Nystrom, MD, Raffi Avedian, MD, Robert Weinschenk MD*

- IET 14 **Minimizing Complications: Pelvis Skin Incisions, Soft Tissue Handling, and Optimal Prosthesis** (5 min)
Ran Wei, MD
- IET 15 **En Bloc Resection of Spine Tumors** (5 min)
Xiaodong Tang, MD
- IET 16 **Molecular Oncology of Chordoma** (5 min)
Francis Hornicek, MD, PhD
- IET 17 **Pelvic Reconstruction Using In-House Designed Implants** (5 min)
Krista Goulding, MD, MPH
- IET 18 **Salvage of Failed Pelvis Reconstruction** (5 min)
Panos Papagelopoulos, MD, FACS

Q&A (5 min)

- Paper 45 **3D-Printed Hemipelvic Endoprotheses Improve Long-Term Function and Sacroiliac Stability After Enneking Type II/II+III Periacetabular Tumor Resection: A Matched Cohort Study**
Rui Yang, MD
- Paper 46 **Custom 3D-Printed Pelvic Reconstruction Versus No Implant Reconstruction Following Oncologic Periacetabular Resection: A Multi-Institutional Study**
Alexander Lazarides, MD
- Paper 47 **Functional Recovery Trajectories Following Internal Hemipelvectomy: Custom 3D-Printed Reconstruction Versus Non-Reconstruction**
Paula Gomes-Baker
- Paper 48 **Sacral Chordoma Resection: Anterior Video-Assisted Laparoscopic Approach**
Eduardo Sadao Yonamine, MD

Q&A (10 min)



50TH ANNIVERSARY MSTS ANNUAL MEETING

FRIDAY, OCTOBER 30, 2026

11:40 am – 12:00 pm **SESSION 9**

Garden Room

Interactive Multi-Disciplinary Tumor Board 2 Unknown Cases

Case Presenter: *Drew Ormseth, MD*

Moderator: *Francis Y. Lee, MD, PhD*

Orthopaedic Oncologist Panelists: *Eduardo Ortiz-Cruz, MD, PhD, Patrick Lin, MD, Andre Spiguel, MD, Michiel van de Sande, MD, Ginger Holt, MD*

Pathologist: *Elham Nasri, MD*

Paper 49 **Unknown Case 1**
Drew Ormseth, MD

Paper 50 **Unknown Case 2**
Drew Ormseth, MD

12:00 – 12:40 pm

Industry Innovation Symposium II – No CME

King Ballroom – Exhibit Hall

Moderators: *David Geller, MD, MBA, Edward Cheng, MD, Felasfa Wodajo MD, Juan Pretell, MD*

D5 **EMD Serono**
Tenosynovial Giant Cell Tumor (8 min)
Dipam Doshi, PharmD, Medical Director, US Medical Affairs

D6 **SpringWorks Therapeutics, Inc.**
Consider Medical Management for Desmoid Tumors (8 min)
Dipam Doshi, PharmD, Medical Director, US Medical Affairs

D7 **Stryker**
Radiofrequency Ablation in the Management of Painful Bone Metastasis (8 min)
John deVries, MD – City of Hope Cancer Center, Duarte, CA

Discussion (8 min)

12:40 – 1:30 pm

Lunch, Poster Viewing, and Exhibits

*Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers*

FRIDAY, OCTOBER 30, 2026

1:30 – 2:35 pm

SESSION 10

Garden Room

Digital Health, AI, Robotics, Engineering

Moderators: *Anna Cooper, MD, MPH, Kyle Sweeney, MD, Alexandra Callan, MD*

- IET 19 **Big Data Analysis in Cancer Biomarkers and Outcomes** (5 min)
Brooke Crawford, MD
- IET 20 **AI in Orthopaedic Oncology: Machine Learning, Generative AI, Agentic AI, and Physical AI** (5 min)
Tae Kim, MD
- Paper 51 **Immune Phenotype-Dependent Pembrolizumab Effects in High-Risk Localized Soft Tissue Sarcoma: A Multimodel and Explainable Machine Learning Analysis of SARCo32 Trial Data**
Anthony Bozzo, MD, PhD, FRCSC (ESI)
- Paper 52 **AR for Sarcoma Surgery – The Future is Here**
Ahmed Aoude, MD, FRCSC
- Paper 53 **An End-to-End Deep Learning Framework and Multicenter Validation for the Diagnosis of Retroperitoneal Soft Tissue Sarcoma**
Tong Meng, MD
- Paper 54 **Augmented Reality Guidance for Targeted Re-Resection of Positive Margins in Sarcoma**
Michael Colello, MD
- Paper 55 **Preoperative Surgical Margin Assessment Using a Three-Dimensional-Printed Model for Simulated Surgery of Periarticular Malignant Bone Tumors**
Shachar Kenan, MD
- Paper 56 **Development and Optimization of In-Situ Local Tumor Ablation and Recycling System for Consistent Heating and Clinical Translation**
Min Wook Joo, MD, PhD
- Paper 57 **Sarcoma Resection Guided by Intraoperative Indocyanine Green Dye Fluorescence Angiography**
Mikaela Sullivan, MD

Q&A (15 min)

2:40 – 3:40 pm

SESSION 11

Garden Room

Controversies in Soft Tissue Tumors

Moderators: *Dieter Lindskog, MD, Herbert Schwartz, MD, Lee Leddy, MD, Rajiv Rajani, MD*

- IET 21 **Management of High-Grade Soft Tissue Sarcomas Without Adjuvant Radiation Therapy** (5 min)
Shintaro Iwata, MD



50TH ANNIVERSARY MSTS ANNUAL MEETING

FRIDAY, OCTOBER 30, 2026

IET 22	Management of High-Grade Soft Tissue Sarcomas with Adjuvant Radiation Therapy (5 min) <i>Jay Wunder, MD, FRCSC</i>	<i>Garden Room</i>
	Q&A (5 min)	
Paper 58	Impact of Neoadjuvant Radiation on Pathogen Profiles and Cefazolin Coverage in Soft Tissue Sarcoma Resection <i>Paula Gomes-Baker</i>	
Paper 59	Plantar Fibromatosis: Surgical Approach for a Tumor with a Tissue-Specific Propensity for Recurrence <i>William Ward, MD, FACS</i>	
Paper 60	An In Vivo Platform Enables Evaluable Drug Responses in Patients with Soft Tissue Sarcoma <i>Kenneth Gundle, MD</i>	
Paper 61	The Surveillance After Extremity Tumor Surgery (SAFETY) International Randomized Controlled Trial <i>Michelle Ghert, MD, FRCSC</i>	
Paper 62	Quantitative Margin Assessment Predicts Local Recurrence in Myxofibrosarcoma <i>Jun Iwatsu, MD</i>	
Paper 63	Beyond the Biopsy: High Rates of Grade and Diagnostic Discrepancy in Myxofibrosarcoma - A Single-Center Analysis <i>Paniz Eizadkhah, BS</i>	
	Q&A (10 min)	

3:50 – 4:50 pm

Ceremony: Celebrating 50 Years	<i>Garden Room</i>
<i>Francis Hornicek Jr., MD, PhD (Program Chair), Francis Lee, MD, PhD (MSTS President)</i>	
<ul style="list-style-type: none"> • Opening Remarks • National Anthem • Honoring Founders & MSTS Members • Long-Standing Industry Partnership Awards • Bringing Global Musculoskeletal Tumor Societies Together • International Society President Session (4 min; 6 Slides, 1st Slide, Introduction of Self; 2nd Slide: Society Overview; 3rd-6th Slides: Research Accomplishment of the Self or Society) 	
MSTS: Francis Lee, MD, PhD	SLATME: Juan Pablo Zumarraga, MD
CTOS: Robin Jones, MD	APMSTS: Yang-Guk Chung, MD
ISOLS: Peter Steadman, MD	Brazil: Ricardo Becker, MD
EMSOS: Michiel van de Sande, MD	India: Ashish Gulia, MD
<ul style="list-style-type: none"> • Closing Remarks 	

4:50 – 5:50 pm

Break, Poster Viewing, and Exhibits	<i>Exhibits – King Ballroom, Garden and East Foyers</i> <i>Posters – South and West Foyers</i>
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6:30 – 9:00 pm

MSTS 50th Anniversary Gala Dinner: Towards the 100th Year	<i>Magnolia Courtyard</i>
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SATURDAY, OCTOBER 31, 2026

7:00 – 8:00 am

Breakfast

King Ballroom – Exhibit Hall

8:00 – 9:30 am

SESSION 12

Garden Room

Surgical Techniques

Moderators: *Tessa Balach, MD, David Mohler, MD,
Robert Henshaw, MD, Albert Aboulafia, MD*

IET 23 **Onco-Plastic Surgery for Primary Oncological Reconstruction** (5 min)
Pietro Ruggieri, MD

IET 24 **Onco-Plastic Surgery for Failed Oncological Reconstructions** (5 min)
Adam Levin, MD

IET 25 **Uni-Articular Knee Arthroplasty in Children** (5 min)
Eduardo Sadao Yonamine, MD

Q&A (5 min)

Paper 64 **Expanding Indications for Compress® Mega-Prosthetic Reconstruction: Successful Management of High-Risk Patients (Age >50, Cortical Thickness <2.5 mm, or Pre-operative Smoking)**
Jungo Imanishi, MD, PhD

Paper 65 **Multidisciplinary Collaboration in Chest Wall Surgery: Excellent Outcomes with a First of Its Kind Combined Orthopedic and Thoracic Team**
Nathan W. Mesko, MD

Paper 66 **What Factors Are Associated with Instability After Endo-Prosthetic Reverse Total Shoulder Arthroplasty for Oncologic Reconstruction of the Proximal Humerus?**
Alexander Lazarides, MD

Paper 67 **Adverse Events and Patient-Reported Outcomes with the Osseointegrated Prostheses for the Rehabilitation of Amputees (OPRA) Implant in Transfemoral Amputees**
Melissa Zimel, MD

Paper 68 **A Nine-Year Experience with a New Fully Cemented, Hybrid, Splined, Porous-Coated Stem in Oncologic Reconstruction**
Christopher Hamad, MD

Q&A (10 min)

Paper 69 **Why Revisions Fail? Risk Factors and Predictors of Reoperation Following Revision Megaprosthetic Reconstruction for Tumors Around the Knee**
Taha Aksoy, MD



50TH ANNIVERSARY MSTS ANNUAL MEETING

SATURDAY, OCTOBER 31, 2026

- Paper 70** Indocyanine Green Fluorescence for Intraoperative Margin Assessment in Musculoskeletal Tumor Surgery: A Single-Institution Experience
Sonia Ubong, MBBS
- Paper 71** From Scalpel to Slide: The Impact of Air Exposure and Histologic Processing on Surgical Margins
Christopher Collier, MD
- Paper 72** Oncological Indication Does Not Portend Worse Outcomes After Proximal Femoral Replacement: Prior Surgical Burden Rather than Diagnosis, Drives Revision Risk
Stephen Chenard, MSc

Garden Room

Q&A (10 min)

9:30 – 10:00 am

SESSION 13

Garden Room

Benign Tumors

Moderators: *Christina J. Gutowski, MD, MPH, Steven Gitelis, MD*

- Paper 73** Diminished Remaining Subchondral Bone Predicts Risk for Fracture or Arthritis Following Treatment of Giant Cell Tumor of Bone at the Knee
Joseph Ippolito, MD
- Paper 74** Patterns and Timing of Local Recurrence in Benign Bone Tumors
Bradley Melvin
- Paper 75** Pimicotinib in Tenosynovial Giant Cell Tumor (TGCT): Long-Term Efficacy, Safety, and Patient-Reported Outcomes from the Phase 3 MANEUVER Trial
Vinod Ravi, MD
- Paper 76** MRI Characteristics to Differentiate Benign Versus Malignant Bone Lesions
Ava Brozovich, MD

Q&A (10 min)

10:00 – 10:30 am

Poster Viewing, and Exhibits

*Exhibits – King Ballroom, Garden and East Foyers
Posters – South and West Foyers*

SATURDAY, OCTOBER 31, 2026

10:30 am – 12:00 pm **SESSION 14**

Garden Room

Disasterplasty and Complications

Moderators: *Joseph Ippolito, MD, Joel Mayerson, MD*

IET 26 **Salvaging Failed Arthroplasty Implants** (5 min)
Herrick Siegel, MD

IET 27 **Management of Massive Bone Loss** (5 min)
Nicola Fabbri, MD

IET 28 **Management of Disastrous Complications** (5 min)
Joseph Benevenia, MD

Q&A (5 min)

Paper 77 **Microbiologic Spectrum and Risk Factors for Surgical Site Infection Following Soft Tissue Sarcoma Resection**
Jay Wunder, MD, MSc, FRCSC

Paper 78 **Comparing Early Outcomes of Antibacterial-Coated Versus Un-Coated Endoprostheses: A Single Institution's Experience with Nanocept Technology**
Danielle Rider, MD

Paper 79 **Risk Factors and Reconstructive Consequences of Infection After Proximal Humeral Endoprosthetic Reconstruction: A Multi-Institutional Study**
Alexander Lazarides, MD

Paper 80 **Synovial Calprotectin Accurately Detects Periprosthetic Joint Infection in Tumor Megaprotheses: A Prospective Cohort Study**
Panayiotis Gavriil, MD

Paper 81 **Distal Femoral Replacement for Oncologic Versus Non-Oncologic Indications: Comparative Outcomes and Predictors of Failure**
Stephen Chenard, MSc

Paper 82 **Prospective Validation of Intraoperative ICGA Perfusion Thresholds for Predicting Wound Complications Following Resection of Preoperatively Irradiated Soft Tissue**
Alexander Lazarides, MD

Q&A (10 min)

Paper 83 **Results of the First 700 Patients Treated with a One-Stage Revision for PJIs**
Gerhard Maale, MD

Paper 84 **NexGen Sequencing (NGS) is More Accurate Than Culture and Sensitivity (CS) in PJIs**
Gerhard Maale, MD



50TH ANNIVERSARY MSTs ANNUAL MEETING

SATURDAY, OCTOBER 31, 2026

- | | | |
|-----------------|---|--------------------|
| Paper 85 | Results of Lymphocyte Transformation Testing in Known Cases of PJI
<i>Gerhard Maale, MD</i> | <i>Garden Room</i> |
| Paper 86 | Hydrolyzed Collagen Augmentation is Associated with Reduced Wound Complications Following Resection of Pre-Operatively Irradiated Extremity Soft Tissue Sarcomas
<i>Alexander Lazarides, MD</i> | |

Q&A (10 min)

Announcement of Awards

Garden Room

Best Paper, 1st, 2nd, and 3rd ESI & Established Investigators;
Best Poster, 1st, 2nd, and 3rd ESI & Established Investigators

- | | | |
|------------------------|--|---|
| 12:10 – 2:00 pm | Lunch and Poster Viewing
MSTS-Industry-Global Networking | <i>Exhibits – King Ballroom, Garden and East Foyers</i>
<i>Posters – South and West Foyers</i> |
| 2:00 – 4:00 pm | Group Networking | <i>Garden Room</i> |
| 4:00 pm | Adjourn | |



Posters

South Foyer, West Foyer and Back of General Session Room

Posters will be on display beginning at 6:00 am Thursday, October 29 through the close of the 2026 Annual Meeting on Saturday, October 31.

- | | |
|-----------|---|
| Poster 1 | Reconstructing the Irreparable: A Novel Approach to Femoral Head Defects After Chondroblastoma Curettage
<i>Cecilia Belzarena, MD, MPH, MBA</i> |
| Poster 2 | What Factors are Associated with Amputation Versus Continued Limb Salvage Following Implant Removal in Lower Extremity Endoprosthetic Reconstruction?
<i>Michael Colello, MD</i> |
| Poster 3 | Venous Thromboembolism (VTE) in Patients with Metastatic Bone Disease Versus Malignant Primary Bone or Soft Tissue Tumors
<i>Pablo Andres Patino, MD</i> |
| Poster 4 | Diagnostic Performance of Interventional Radiology and Surgical Biopsies for Musculoskeletal Lesions
<i>Danielle Brown, MD</i> |
| Poster 5 | MRI Misses Residual Sarcoma: Pathologic Correlation After Re-Excision of Tumor Bed
<i>Drew Ormseth, MD</i> |
| Poster 6 | When Cartilage Misleads: Fibrocartilaginous Mesenchymoma Mimicking Chondrosarcoma on Core Biopsy
<i>Julian Emerson Dilley, MD</i> |
| Poster 7 | When the Implant Is Not the Problem: Three Teachable Decision Points to Prevent Soft-Tissue Failure After Hemipelvic Endoprosthetic Reconstruction
<i>Ziyi Zhao, MD</i> |
| Poster 8 | Hemiarthroplasty Versus Total Hip Arthroplasty for Metastatic Bone Disease of the Proximal Femur
<i>Matthew Yeager, MD</i> |
| Poster 9 | Posterior Chest Wall Angiosarcoma with Dynamic Scapular Reconstruction Using a Trapezius Osteo-Muscular Rotational Flap
<i>Adeem Nachabe, MD</i> |
| Poster 10 | Deltoid Reconstruction with Functional Pedicled Bipolar Pectoralis Major Muscle Flap for Shoulder Abduction and Flexion
<i>Lahin Amlani, MD</i> |
| Poster 11 | Modified Compress Technique for Intercalary Limb Salvage in Children with Bone Sarcomas
<i>Raffi Avedian, MD</i> |
| Poster 12 | Successful Glenoid Reconstruction Using a Distal Tibial Osteochondral Allograft Following Wide Resection of a Scapular Chondrosarcoma: A Case Report
<i>Anna A. Khachatryan, MD</i> |
| Poster 13 | 3D-Printed Cutting Guides for Joint Preservation of a Rare Juxtarticular BCOR Sarcoma of the Proximal Tibia and Multidisciplinary Care Approach
<i>Shachar Kenan, MD</i> |



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- Poster 14 **A Propensity Matched Analysis of 1,101 Patients with Tenosynovial Giant Cell Tumor Undergoing TKA: Impact of Prior Surgical Resection and Pexidartinib Usage on Complications**
Amy Zeller, MD
- Poster 15 **Primary Versus Secondary Patellar Resurfacing in Oncologic Megaprosthesis Knee Reconstruction: A Multi Institutional Retrospective Cohort Analysis**
Alan T. Blank, MD, MS
- Poster 16 **Surgical Management of Metastatic Bone Disease: En Bloc Resection With or Without Reconstruction**
Yang-Guk Chung, MD
- Poster 17 **Custom 3D-Printed Implants Represent a Highly Effective Treatment Strategy for Bone Tumors**
Almatbek Yelekbayev, MD
- Poster 18 **What is the Clinical Outcome of Limb-Salvage Surgery for Primary Pelvic Malignancy Involving Both Acetabulum and Hemisacrum?**
Ran Wei, MD
- Poster 19 **An Experimental Technique of Cabled Sural Nerve Autograft when Limb-Salvage Is Desired In the Setting of Recurrent Popliteal Osteosarcoma and Requires Large-Gap Resection the Tibial Nerve**
Anna Cooper, MD
- Poster 20 **Postoperative Pulmonary Embolic Phenomena After Short Versus Long Cemented Femoral Stems for Total Hip Arthroplasty in Cancer Patients**
Darshan Patel, BS
- Poster 21 **Low-Dose Radiation Therapy for Benign Musculoskeletal Disorders: A Systematic Review of Clinical Benefit and Long-Term Risk**
Arnav Batra, BS
- Poster 22 **The Evolution of Practice Patterns of Early Career Orthopaedic Oncologists: Analysis of 22 Years of the ABOS Part II Case List Database**
Matthew R. DiCaprio, MD
- Poster 23 **Management of Complications in Patients Treated with Photodynamic Polymer Stabilization for Metastatic Bone Disease**
Joseph Benevenia, MD
- Poster 24 **Diagnostic Performance of Generative Artificial Intelligence in Radiographic Interpretation of Bone Tumors: A Systematic Review**
Ashley Castan
- Poster 25 **Patients Older than Forty with Osteosarcoma Have Worse Outcomes than Pediatric Osteosarcoma Patients**
Joseph Ippolito, MD
- Poster 26 **OsteoAttach: A Novel Tendon-to-Bone Fixation Technique for Extensor Mechanism Reconstruction After Proximal Tibial Tumor Resection**
Recep Ozturk, MD
- Poster 27 **Surgical Outcomes in Oncological Sacrectomy: A Detailed Analysis of Surgical Site Infections (SSI)**
Halil Ibrahim Bulut, MD
- Poster 28 **Distal Fibula Tumors: Oncologic Control Versus Ankle Stability - A Single-Center Case Series**
Recep Ozturk, MD

Posters, continued

South Foyer, West Foyer and Back of General Session Room

- Poster 29 **Modular Reconstruction of The Acetabulum in Sarcoma Surgery: A Retrospective Cohort Study**
Maria Antonia Gomez Sierra, MD
- Poster 30 **LOI for Phase 2 Trial of Zanzalitinib for Patients with Advanced Osteosarcoma**
Philippos Apolinario Costa, MD
- Poster 31 **Rethinking Timing of Surgery for Osteosarcoma: Total Neoadjuvant Chemotherapy Followed by Surgery, A Systematic Literature Review**
Anthony Chiu, MD
- Poster 32 **The Incidence and Timing of Postoperative Complications, Revision Surgery, and Amputations in Oncologic Rotationplasty Procedures**
Courtney Lavin, MD
- Poster 33 **Bipolar Hemostatic Sealer Is a Safe and Effective Adjuvant Therapy in Resection of Benign Bone Tumors: Retrospective Review of 179 Patients in Comparison with Cryotherapy and Other Adjuvants**
Kyle Sweeney, MD
- Poster 34 **Outcomes of Patients with Primary Bone Sarcoma with Pathologic Fracture: A Retrospective Cohort Study**
Aaron Gazendam, MD, FRCSC
- Poster 35 **Off-Label Use of Denosumab in Locally Advanced Aneurysmal Bone Cyst: A Case Series of 10 Patients**
Bartłomiej Szostakowski, MD
- Poster 36 **Primary Malignant Bone Tumor Epidemiology Across Two National Databases: SEER Versus TriNetX**
Nicholas C. Bank, MD
- Poster 37 **Outcomes of Limb Salvage Following Unplanned Intralesional Procedures of Primary Bone Sarcomas of the Femur**
Maria Antonia Gomez Sierra, MD
- Poster 38 **Four Quadrant Versus Kanazawa Triage for Low Grade Cartilage Tumors of Bone**
Irina Sokolik
- Poster 39 **How is Opioid Utilization Associated with Quality-of-Life Outcomes in Pediatric Sarcoma Patients?**
Mia Lundin
- Poster 40 **Changes in Opioid Prescribing Among Childhood Sarcoma Patients: A Tale of Two Eras**
Mia Lundin
- Poster 41 **Immediate Soft-tissue Reconstruction in Pediatric Limb-Salvage Extremity Tumor Surgery: Patterns and Outcomes from NSQIP-Pediatric, 2012-2023**
Michael B. Amrami, MPH
- Poster 42 **Comparative Effectiveness of Surgical Interventions for Unicameral Bone Cysts of the Calcaneus: A Systematic Review and Meta-Analysis**
Carolina Mendez-Guerra, MD
- Poster 43 **Revision Surgery, Secondary Amputation, and Implant Survival After Extra-articular Resection for Bone and Soft Tissue Sarcomas: A Systematic Review and Meta-Analysis**
Carolina Mendez-Guerra, MD



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- Poster 44 **Local Recurrence, Distant Metastasis, and Overall Survival After Extra-articular Resection for Bone and Soft Tissue Sarcomas: A Systematic Review and Meta-Analysis**
Carolina Mendez-Guerra, MD
- Poster 45 **Factors Associated with Non-Standard Treatment in Adults with Extremity Bone Sarcomas: A California Cancer Registry Study**
Michaela Juels
- Poster 46 **Investigating the Impact of Race, Insurance, and Socioeconomic Status on Outcomes in Extremity Sarcomas**
Michaela Juels
- Poster 47 **Return to Sport Following Endoprosthetic Reconstruction for Primary Bone Sarcoma: A Systematic Review**
Odion Binitie, MD
- Poster 48 **Outcomes of Upper Extremity Expandable Endoprosthesis in Pediatric Patients**
Odion Binitie, MD
- Poster 49 **Onco-Orthopaedic Strategies for War-Related Bone Loss**
Oleg Vyrva, MD
- Poster 50 **Clinical Strategies for Infection Control in Orthopaedic Oncology Limb Salvage**
Oleg Vyrva, MD
- Poster 51 **Reporting of Sociodemographic Factors in Randomized Controlled Trials of Sarcoma Surgery**
Karen Padilla, MD
- Poster 52 **Mental Health Outcomes Following Extremity and Pelvic Sarcoma: A Retrospective Cohort Study**
Chantelle Cancel
- Poster 53 **HALP Score and Systemic Inflammatory Markers in Differentiating Benign and Malignant Bone Tumors**
Recep Ozturk, MD
- Poster 54 **Progression of H3F3A p.G34W Positive Secondary Malignant Transformation of Giant Cell Tumor of Bone**
Timothy Rapp, MD
- Poster 55 **Socioeconomic Deprivation Is Not Associated with Survival in Localized Extremity Bone Sarcoma**
Brian Benyamini
- Poster 56 **Open Physeal Status Is Associated with Structural Failure of Knee Endoprosthetic Reconstructions in Osteosarcoma**
Autreen Golzar
- Poster 57 **Evaluating Tobacco Use as a Modifiable Risk Factor for Recurrence in Tenosynovial Giant Cell Tumor**
Christopher D Hamad, MD
- Poster 58 **Limb-Sparing Proximal Humerus Reconstruction Using Compressive Osseointegration Versus Cemented Stems**
Kenneth Gundle, MD
- Poster 59 **When Anatomy Limits Resection: Margin-Driven Recurrence in Pelvic Chondrosarcoma**
Joseph Redding

Posters, continued

South Foyer, West Foyer and Back of General Session Room

- Poster 60 **Metabolic Response and Tumor Mineralization of Osteosarcoma on PET/CT as Predictors of Histologic Necrosis**
Daryn Strub
- Poster 61 **Comparison of Peripheral Nerve Catheters Versus Epidural Analgesia Following Lower-Extremity Sarcoma Resections in Children**
Daryn Strub
- Poster 62 **Dedifferentiated Versus Conventional Chondrosarcoma: Divergent Timelines of Pulmonary Metastasis**
Joseph Redding
- Poster 63 **Quantitative MRI Assessment of Bone Compositional Changes Following Core Decompression Treatment of Osteonecrosis of the Femoral Head: A Pilot Study**
Edward Y. Cheng, MD
- Poster 64 **Considerations of Iliofemoral Arthrodesis in Pelvic Bone Tumor Resection: A Case Review and Systematic Analysis with Meta-Analysis**
Tae Won Kim, MD
- Poster 65 **Emotional Outcomes of Non-Invasive Expandable Limb-Sparing Surgery in Pediatric Bone Sarcoma**
David A. Johnson
- Poster 66 **Severity-Dependent Impact of Preoperative Hypoalbuminemia on Mortality in Tumor-Related Pathologic Hip Fractures**
Caleb Cummings
- Poster 67 **Sequential Application of BACTIP and the Radiological Aggressiveness Score Enhances Triage and Surgical Decision-Making in Intramedullary Cartilage Tumors**
Caleb Cummings
- Poster 68 **When Should a Hip Fracture Raise Concern for Malignancy? The Role of Fracture Location**
Caleb Cummings
- Poster 69 **Preoperative Anemia is Associated with Transfusion and Delirium, but not Early Mortality, in Pathologic Hip Fractures**
Caleb Cummings
- Poster 70 **Management of Tenosynovial Giant Cell Tumor in the Systemic Therapy Era: A Time-Dependent Analysis**
Christopher D. Hamad, MD
- Poster 71 **Cemented Proximal Tibial Replacements Provide Durable Mid-Term Survival but High Long-Term Failure: A 45-Year Experience**
Christopher David Hamad, MD
- Poster 72 **Delayed Recovery of Functional Range of Motion After Compressive Osteointegration in Distal Femoral Replacement: A Matched Cohort Study**
Christopher David Hamad, MD
- Poster 73 **Long-Term Failure Patterns After Distal Femoral Replacement Have Shifted Over Time: A 42-Year Single-Institution Study**
Autreen Golzar



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- Poster 74 **Pathologic Hip Fractures Are Associated with Increased Early Mortality and Complications Compared with Matched Typical Hip Fractures**
Caleb Cummings
- Poster 75 **Pelvic Location Is Associated with Local Recurrence in Chondrosarcoma in a Grade-Dependent Manner**
Christopher D. Hamad, MD
- Poster 76 **Functional Outcomes Following Surgical Treatment of Benign Proximal Femur Lesions: Are There True Determinants?**
Recep Ozturk, MD
- Poster 77 **Lower Biomarker Thresholds Are Needed for Periprosthetic Joint Infection Diagnosis in Oncologic Megaprosthesis Patients: External Validation of Megaprosthesis-Specific Cutoffs**
Michael P. Fice, MD
- Poster 78 **Impact of Cumulative Neighborhood Deprivation on Survival Among Adolescents and Young Adults with Bone Sarcoma**
Odion Binitie, MD
- Poster 79 **Intraoperative Blood Loss Is Associated with Overall Survival in Nonmetastatic Osteosarcoma**
Thomas Evans
- Poster 80 **The Legacy of a Banned Carcinogen: County-Level Polychlorinated Biphenyls Environmental Burden Associates with Ewing Sarcoma Incidence Decades After Federal Prohibition**
Casey Abernethy
- Poster 81 **Do Tissue-Specific Margins Influence Outcomes After Negative Resection in Chondrosarcoma?**
Thomas Evans
- Poster 82 **Total Tibia Replacement with Dual Partial Joint Reconstruction Following Osteosarcoma Resection with Positive Distal Margins: A Case Report with 10-Year Follow-Up**
Dan Carai Maia Viola, MD
- Poster 83 **Beyond Weight Loss: A Propensity-Matched Study of Glucagon-Like Peptide-1 Receptor Agonists in Morbidly Obese Patients with Bone Sarcoma**
Amy Zeller, MD
- Poster 84 **Neighborhood Deprivation Metrics Behave Differently in Referral Center Cohorts: Socioeconomic Disparities in Osteosarcoma Outcomes at a Tertiary Center**
Daniel Burnett
- Poster 85 **Gebhardt Triple Injection for Unicameral Bone Cyst: Outcomes of a Novel, Minimally-Invasive Protocol**
Elyse Berlinberg, MD
- Poster 86 **Custom Intercalary Endoprosthetic Reconstruction of an Ulnar Diaphyseal Osteosarcoma in a Child**
Robert Henshaw, MD
- Poster 87 **Analysis of Pathologic Fractures in Adult Osteosarcoma as a Prognostic Indicator: A Retrospective Cohort Analysis of a Novel Cohort**
Andrew Hancock
- Poster 88 **Poor Histologic Response in Osteosarcoma Is Associated with Worse Survival and a Higher Proportion of Involved Margins**
Jay Chavakula

Posters, continued

South Foyer, West Foyer and Back of General Session Room

- Poster 89 **Rotationplasty After Tumor Resection - A 37-Year Single-Center Experience**
Philipp Funovics, MD, MSc, MBA
- Poster 90 **Intercalary Compressive Osseointegration of Diaphyseal Tumors: A Multi-Institutional Case Series**
Neslihan Erbas, MD
- Poster 91 **A Stem-Retaining Two-Stage Strategy for Chronic Periprosthetic Joint Infection in Oncologic Megaprosthesis Reconstruction: Long-Term Outcomes**
Maria Antonia Gomez-Sierra, MD
- Poster 92 **Central Conventional Chondrosarcomas in the Pediatric Population: A Clinicopathologic and Molecular Study**
Christa LiBrizzi, MD
- Poster 93 **Which Factors Influence Early Bone Ingrowth Following Short Spindle COMPRESSA® Osseointegration at the Lower Extremities? A Multivariate Analysis of a Single Institution Experience**
Joseph Ippolito, MD
- Poster 94 **Diagnostic Yield of Percutaneous Versus Open Surgical Biopsy for Tibial Bone Lesions: A Retrospective Cohort Analysis**
Michael P. Fice, MD
- Poster 95 **Distal Femur Replacement for Oncologic Versus Non-Oncologic Indications: A Comparative Analysis of Outcomes**
Michael P. Fice, MD
- Poster 96 **Muscle Matters: Longitudinal Skeletal Muscle Changes in Pediatric and AYA Sarcoma Patients After Treatment**
Mia Lundin
- Poster 97 **Long-Term Clinical Outcomes of Hemiarticular and Hemicortical Allograft Reconstruction After Tumor Resection: A Single-Institution Experience**
Anish Thalakola, MD
- Poster 98 **Outcomes of Megaprotheses and Allograft-Prosthetic Composites after Oncologic Extra-Articular Resection of the Knee**
Angad Bedi
- Poster 99 **Primary Sacral Tumors: Evolution of a Combined Surgical Technique with Videolaparoscopy and Its Impact on Oncologic and Functional Outcomes**
Eduardo Sadao Yonamine, MD
- Poster 100 **Does Abductor Reattachment Technique Influence Functional Outcome After Proximal Femoral Tumor Prosthesis?**
Recep Ozturk, MD
- Poster 101 **Impact of Depression and Anxiety on Surgical and Medical Outcomes Following Lower Extremity Bone and Soft Tissue Tumor Resection**
Shujaa T Khan, MD
- Poster 102 **Freezing Nitrogen Ethanol Composite (FNEC) as an Adjuvant to Intralesional Curettage for Giant Cell Tumor of Bone: Mid- to Long-Term Outcomes**
Kuan-Lin Chen, MD



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- Poster 103 **Radiographic Alignment and Survivorship of Distal Femoral Replacements: Comparison of All-Polyethylene Versus Metal-Backed Tibial Components**
Michel Huyghe
- Poster 104 **Vascularized Physeal Transfer for Proximal Humeral Reconstruction in Skeletally Immature Sarcoma Patients**
Alexandra Callan, MD
- Poster 105 **Compartment-Specific Bone and Soft Tissue Margin Assessment in Osteosarcoma: Feasibility and Preliminary Oncologic Associations**
Sriharsha Gonuguntla
- Poster 106 **In-Situ Pelvic Reconstruction in Seven Patients**
Kevin Raskin, MD
- Poster 107 **Impact of Primary Tumor Location on Treatment and Outcomes in Ewing Sarcoma**
Alan T. Blank, MD, MS
- Poster 108 **Metabolic Response Predicts Survival in Localized Osteosarcoma but Not in Metastatic Disease, and has Limited Value in Ewing Sarcoma**
Thomas Scharschmidt, MD
- Poster 109 **Language Disparities in Clinical Outcomes Among Patients with Primary Osteosarcoma**
Maithily Diaz, BA, BS
- Poster 110 **Pulmonary Metastasis in Chondroblastoma: An Institutional Cohort and Meta-Analysis**
Alan T. Blank, MD, MS
- Poster 111 **Disparities in Mental Health Documentation for Non-English Speakers with Primary Osteosarcoma**
Maithily Diaz, BA, BS
- Poster 112 **Comparative Outcomes of Malignant Femoral, Tibial, and Pelvic Bone Tumor Resection: A Propensity Score-Matched Analysis Using a National Database**
Shujaa Khan, MD
- Poster 113 **Persistent vs. Non-Persistent Opioid Use Following Lower Extremity Tumor Resection for Bone and Soft Tissue Tumors: A Propensity Score-Matched Analysis of 1- and 3-Year Medical and Surgical Outcomes**
Shujaa Khan, MD
- Poster 114 **Surgical Margin Clearance Mediates the Survival Advantage of Academic Centers in Primary Bone Sarcoma: A National Cancer Database Analysis**
Jonathan Kim
- Poster 115 **Does Adding Calcium Sulfate Beads Lead to Higher Treatment Success Rates in Megaprosthesis Joint Infections?**
Sonia E. Ubong, MBBS
- Poster 116 **Clinical-Pathologic Grade Discordance in Primary Chondrosarcoma: A National Cancer Database Analysis**
Rajarajan Srinivasan
- Poster 117 **Trends and Burden Composition at the National and Interstate Levels for Malignant Neoplasms of Bone and Articular Cartilage in the United States, 1990-2023**
Amy Zeller, MD

Posters, continued

South Foyer, West Foyer and Back of General Session Room

- Poster 118 **Early Results with Moldable Hemostatic Bone Putty as a Void Filler In Benign Bone Tumors in Children and Young Adults**
Rajul Gupta
- Poster 119 **Photodynamic Nail Fixation Provides Durable Stabilization for Pelvic Metastases Despite Local Disease Progression**
Sonia E. Ubong, MBBS
- Poster 120 **3D Pelvic Reconstruction Following Hemipelvectomy: A Multi-Institutional Case Series**
Alan T. Blank, MD, MS
- Poster 121 **Simplifying Pediatric Orthopedic Oncology Pathology Reports Using ChatGPT and OpenEvidence to Increase Accessibility for Patients and Families**
Annabelle P. Davey, MD
- Poster 122 **Geographic Disparities in Surgical Management of Pediatric and AYA Bone Sarcomas: An NCDB Review**
Nathan Donaldson, DO
- Poster 123 **Should High-Risk Aneurysmal Bone Cysts Be Treated Differently? Differential Impact of Treatment Modality on Recurrence-Free Survival in High Versus Low Risk Aneurysmal Bone Cysts**
Andrew Girgis
- Poster 124 **Custom 3D-Printed Hemipelvic Reconstruction with Compressive Osseointegration After Extra-Articular Sarcoma Resection: A Case Report**
Amy Zeller, MD
- Poster 125 **Giant Cell Tumor of the Patella Treated with Patellectomy and Extensor Mechanism Allograft Reconstruction**
Eduardo Sadao Yonamine, MD
- Poster 126 **How Does Facility Type Matter for Chondrosarcoma Survival?**
Ashraar Dua
- Poster 127 **Demographic and Clinicopathologic Risk Factors for Metastasis in Chondrosarcoma**
Camille Sullivan, MD
- Poster 128 **Conventional Chondrosarcoma Pulmonary Metastases Exhibit Increased Immunosuppressive Macrophage Marker and PD-L1 Expression Compared to Primary Tumors**
Camille Sullivan, MD
- Poster 129 **Rotationplasty at Four Months: Youngest Reported Case and Systematic Review in Children Under Five**
Christopher D. Collier, MD
- Poster 130 **Intratumoral Imiquimod in Advanced Soft Tissue Sarcoma**
Samir Sabharwal, MD, MPH
- Poster 131 **From Instability to Relief: Minimally Invasive Pelvic Stabilization Improves Pain Control and Reduces Opioid Consumption**
Joseph Ippolito, MD
- Poster 132 **Does Extended Curettage Decrease the Local Recurrence Rate of Chondromyxoid Fibroma? A Single-Center Analysis**
Aaron Gazendam, MD, FRCSC



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- Poster 133 **Technical Pearls for Brachial Plexus Schwannoma Resection: Safe Dissection, Strategic Exposure, and Nerve Preservation**
Cecilia Belzarena, MD, MPH, MBA
- Poster 134 **Multifocal Giant Cell Tumor with Extensive Sacral Disease in a 13-Year-Old Patient: An Exceptionally Rare Presentation with Durable Control**
Cecilia Belzaren, MD, MPH, MBA
- Poster 135 **Cemented Versus Cementless Stems in Hip Arthroplasty for Oncologic Indications: A Systematic Review**
Ben Baranker
- Poster 136 **Global Trends in Custom Implants and Cutting Guides for Sarcoma Surgery: A Bibliometric Study**
Rajiv Rajani, MD
- Poster 137 **Socioeconomic Status - Driven Outcome Differences in Pediatric Bone Cancers**
Karim Masrouha MD
- Poster 138 **Geographic Distance to Treatment Center Influences Demographics and Treatment Patterns in Soft Tissue Sarcoma: A National Cancer Database Analysis**
Karim Masrouha MD
- Poster 139 **The Use of a Custom 3D-Printed Patient-Specific Native PEEK Implant for Complex En Bloc Spinal Sarcoma Resection and Reconstruction**
Shalin S. Patel, MD
- Poster 140 **A Newly Reported KIFC1:PHF1 Fusion in High-Grade Small Cell Sarcoma of the Scapula Treated with a Custom Total Scapular Implant with Reverse Total Shoulder Arthroplasty**
Shalin S. Patel, MD
- Poster 141 **Artificial Intelligence Adoption and Attitudes Among International Orthopedic Oncologists: A Cross-Society Survey**
Anthony Bozzo, MD, FRCSC
- Poster 142 **ChatGPT Outperforms other Large Language Models in Readability for Patients with Osteosarcoma**
Ashley Castan
- Poster 143 **Morbidity of an Unplanned Excision of Soft Tissue Sarcomas: A Quantitative Assessment**
Drew Ormseth, MD
- Poster 144 **The Continued Underrepresentation of Women in Orthopaedics: Understanding Retention Trends**
Meagan Tibbo, MD, MS
- Poster 145 **Beyond Size Thresholds: Age-Dependent Distribution and Continuous Survival Risk in Non-Rhabdomyosarcoma Soft Tissue Sarcoma (NRSTS)**
Spencer M. Richardson, MD
- Poster 146 **Percutaneous Photodynamic Nail Fixation for Stabilization of Pelvic Metastatic Disease: Surgical and Oncologic Outcomes**
Meagan E. Tibbo, MD, MS
- Poster 147 **Insurance Status, Not Area Deprivation, Predicts Amputation and Deep Infection After Megaprosthesis Reconstruction**
Riley Gilbertson
- Poster 148 **Osteosarcoma Arising In Fibrous Dysplasia of the Distal Radius: A Case Report**
Meagan Tibbo, MD, MS

Posters, continued

South Foyer, West Foyer and Back of General Session Room

- Poster 149 **Oncology Bone Health Clinic: Early Results of Coordinated Multidisciplinary Care**
Jill Kain, MSN, ARNP, FNP-C
- Poster 150 **The Successful Salvage of a Proximal Intercalary Femur Allograft Nonunion Site Following Osteosarcoma Resection with Another Non-Vascularized Fibula Autograft**
Joel M. Post, DO
- Poster 151 **Oncoplasty Tips and Tricks: How to Cover the Defect as an Orthopedic Oncologist**
Joel M. Post, DO
- Poster 152 **Benign Lipomatous Tumors Causing Severe Venous Compression and Thrombotic Complications in the Thigh and Inguinal Region: Two Operatively Managed Cases**
Michael Mott, MD
- Poster 153 **Rotationplasty with Terminal Syme Amputation in a Heterogeneous Pediatric and Young Adult Case Series**
Michael Mott, MD
- Poster 154 **Challenges in Treating Recurrent Ewing Sarcoma: Immunotherapy, Secondary Malignancies, and the Path to Personalized Treatment**
Adrian Ibanez Navarro, MD
- Poster 155 **Staged Revision of Distal Femoral Megaprosthesis Following Oncologic Resection for Bone Tumours Using a Cemented Modular Arthrodesis Nail Spacer: A Single-Centre Retrospective Study**
Bartłomiej Szostakowski
- Poster 156 **Osteoid Osteoma of the Tibial Intercondylar Eminence - New Approach**
Eduardo Sadao Yonamine, MD
- Poster 157 **First Reported Case of Nodular Fasciitis with Intraosseous Patellar Involvement: A Case Report**
Alan T. Blank, MD, MS
- Poster 158 **Complex Pelvic Resection - Navigation Surgery + 3D Printing**
Eduardo Sadao Yonamine, MD
- Poster 159 **NUTM1 Gene Detection in Congenital Spindle Cell Rhabdomyosarcoma with VGLL2::CITED2 Fusion Presenting as Progressive Infantile Scoliosis**
Autreen Golzar
- Poster 160 **A Case Report of Metastatic Basal Cell Carcinoma to Bone**
Joseph Benevenia, MD
- Poster 161 **Systematic Review and Meta-Analysis of Percutaneous Fixation Techniques for Metastatic Bone Disease in the Pelvis**
Zachary Carter
- Poster 162 **Establishing Research Priorities in Metastatic Bone Disease: A Modified Delphi Study in Orthopaedic Oncology**
Ben Wajda, MD, MSc
- Poster 163 **Long Term Follow-Up of Fluoroscopy-Guided AORIF for Periacetabular Metastases in a 65 Patient Cohort**
Matan Ozery, MD



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- Poster 164** **Whole-Pelvis Digital Image Correlation Demonstrates Restoration of Pelvic Ring Mechanics After Percutaneous Tripod Reconstruction for Periacetabular Metastases**
Rui Yang, MD
- Poster 165** **Finite Element Evaluation of Percutaneous Tripod Reconstruction across Metastatic Acetabular Classification Subtypes in Periacetabular Metastases**
Rui Yang, MD
- Poster 166** **Radiologist-Implied Osseous Disease on PSMA PET/CT in Men with Prostate Cancer: Skeletal Distribution, Lesion Burden, and Orthopedic Relevance**
Benjamin Kailes
- Poster 167** **Sociodemographic and Clinical Factors Associated with Bone Metastasis and Survival in Distant-Stage Lung Cancer in Louisiana**
Zachary Carter
- Poster 168** **Beyond the Fracture: Frailty-Based Risk Stratification and Healthcare Utilization in Surgically Treated Pathologic Fractures of the Extremities.**
Anna Cooper, MD
- Poster 169** **Predictors of Surgical Conversion following Palliative Radiotherapy for Bone Lesions: Machine Learning-Based Risk Stratification**
Christina Gutowski, MD, MPH
- Poster 170** **Beyond PD-L1: Evaluating Clinical and Molecular Predictors of Immune Checkpoint Inhibitor Response in Advanced and Metastatic Sarcoma**
Megan Jagosky, MD
- Poster 171** **Immediate Reconstruction in Spine Oncologic Surgery: Patterns and Outcomes from a National Database**
Michael B. Amrami, MPH
- Poster 172** **Increased Risk of Mental Health Disorders Following Pathological Fracture: A Retrospective Cohort Analysis**
Chantelle Cancel
- Poster 173** **Surgical Management and Outcomes of Bone Lesions in Multiple Myeloma: A Single Center Case Series**
Yang Guk Chung, MD
- Poster 174** **Percutaneous Tripod Acetabular Reconstruction with Total Hip Arthroplasty for Periacetabular Metastatic Disease: Comparison of Direct Anterior and Posterior Approaches**
Chris Johnson, MD
- Poster 175** **Modified AORIF as a Strategic Bridge to Facilitate Immediate Cancer Therapy and Subsequent Conversion to Total Hip Arthroplasty for Acetabular Metastases**
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- Poster 176** **Impact of Demographic and Socioeconomic Disparities on Diagnosis and Outcomes in Metastatic Long Bone Disease: A Systematic Review**
Sasha Balkaran
- Poster 177** **Metastatic Bone Disease is an Independent Risk Factor for Periprosthetic Fracture Following Total Hip and Knee Arthroplasty**
Casey Abernethy

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- Poster 178 **Surgical Management of Metastatic Bone Disease: Extended Curettage and Cementation as a Durable Procedure**
Yang Guk Chung, MD
- Poster 179 **Early Mortality After Surgery for Long Bone Metastases: A 25-Year, 3,186-Patient Single-Center Experience**
Yifei Wang, MD
- Poster 180 **Healing Rates of Pathologic Femur Fractures by Primary Malignancy: A Database Study**
Cindy Wang, MD
- Poster 181 **Factors Associated with Procedure Choice and Reoperation After Surgical Treatment of Distal Femur Metastatic Lesions**
Katelyn Harrison, MD
- Poster 182 **Bone Modifying Agents in Metastatic Bone Disease Secondary to Hepatocellular Carcinoma**
Jay Chavakula
- Poster 183 **Rural-Urban Survival Differences in Cancer Patients with Bone Metastases**
Breanna Ethridge, MD
- Poster 184 **Biomechanical Comparison of Photodynamic Balloon and Cannulated Screw Fixation for Pelvic Stabilization in Metastatic Disease**
Mattie E. Raiford, MD
- Poster 185 **Postoperative Pseudoparalysis and Overlap Syndrome Related to Immune Checkpoint Inhibitors: A Case Report**
Barlas Goker, MD
- Poster 186 **Expanding the Indications for Rotationplasty: A Systematic Review of Non-Traditional Utilization**
Dylan Shafer, MD
- Poster 187 **Reverse Total Shoulder Arthroplasty for Oncologic Proximal Humerus Reconstruction: A Multicenter Study of Outcomes and Survivorship**
Amy Zeller, MD
- Poster 188 **Mean Inflation-Adjusted Surgeon Reimbursement for Prophylactic Treatment of Impending Femur Fractures Has Decreased Approximately 60% from 2000 to 2024**
Amy Zeller, MD
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- Poster 190 **Pre-Cancer Bone Mineral Density Predicts Breast Cancer Bone Metastasis Risk**
Danielle E. Brown, MD
- Poster 191 **Impact of Demographic and Socioeconomic Disparities on Diagnosis and Outcomes in Metastatic Spine Disease: A Systematic Review**
Sasha Balkaran
- Poster 192 **Impact of Social Determinants of Health on Postoperative Outcomes Following Surgical Treatment of Pathologic Proximal Femur Fractures**
Amy Zeller, MD



50TH ANNIVERSARY MSTS ANNUAL MEETING

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Santiago Lozano-Calderon, MD, PhD
- Poster 194** **Assessment of the Bone Microenvironment in Breast and Prostate Carcinoma Metastases**
Dan Carai Maia Viola, MD
- Poster 195** **Impact of Demographic and Socioeconomic Disparities on Diagnosis and Outcomes in Metastatic Bone Disease: A Systematic Review**
Sasha Balkaran
- Poster 196** **Multi-Institutional Study of Patient Reported-Outcomes Following Minimally Invasive Photodynamic Nail Stabilization of the Pelvis**
Santiago Lozano-Calderon, MD, PhD
- Poster 197** **A Novel Classification for Periacetabular Metastatic Disease**
Ian English, MD
- Poster 198** **Is Single Stage Bilateral Femoral Nailing a Safe and Efficacious Option for Patients with Synchronous Metastatic Bone Disease and Myeloma?**
Joydeep Baidya
- Poster 199** **Treatment Approaches for Metastatic Disease of the Sacrum**
Meredith Bartelstein, MD
- Poster 200** **Benefits and Barriers for Sarcoma Registries: Survey Results from the International Sarcoma Registry**
Benjamin J. Miller, MD, MS
- Poster 201** **Global Variation in Sarcoma Presentation: The First Project of the International Sarcoma Registry**
Benjamin J. Miller, MD, MS
- Poster 202** **Distribution, Recurrence Rates, and Pain Outcomes Following Excision of Benign Peripheral Nerve Sheath Tumors**
Tareq Hanna
- Poster 203** **Reconstruction Patterns and Outcomes in Adult Upper Extremity Oncologic Surgery: Insights from the ACS-NSQIP Database (2009- 2022)**
Michael B. Amrami, MPH
- Poster 204** **Patterns of Care for Desmoid Tumors in the Veterans Affairs (VA) National Database**
Kenneth Gundle, MD
- Poster 205** **Impact of Arthroplasty on Patient-Reported Outcomes in Diffuse Tenosynovial Giant Cell Tumor: A Real-World Propensity-Score-Matched Analysis**
Sydney Stern, PhD
- Poster 206** **Regional Bone Changes Adjacent to Vascular Soft Tissue Tumors: Are They Truly Indicative of Malignancy?**
Recep Ozturk, MD
- Poster 207** **Complete Response to Doxorubicin in Advanced Undifferentiated Pleomorphic Sarcoma: A Case Report**
Toru Hirozane, MD, PhD
- Poster 208** **Does Tumor Location Affect Mortality After Unintended Excision of Upper Extremity Soft Tissue Sarcomas?**
Morgan Sisk, MD

Posters, continued

South Foyer, West Foyer and Back of General Session Room

- Poster 209 **Radiation-Associated Femoral Nonunion and Fixation Failure Following Limb-Salvage Surgery for Thigh Soft Tissue Sarcoma: Two Case Reports and a Review of the Literature**
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- Poster 210 **Can We Operate Sooner? Earlier Surgery After Pre-operative Radiation Does Not Increase Wound Complications in Soft Tissue Sarcoma Care**
David Geller, MD, MBA
- Poster 211 **Barriers to Care for Musculoskeletal Tumors in the Caribbean Population**
Brooke Crawford, MD
- Poster 212 **Outcomes of Free Flap Reconstruction Following Lower Extremity Soft Tissue Sarcoma Resection**
Ying Yu
- Poster 213 **Risk Factors for Return to the Operating Room for Seromas After Wide Resection of Soft Tissue Sarcomas of the Thigh**
Barlas Goker, MD
- Poster 214 **An Excision is Not a Resection and a Resection is Not an Excision: Consistency in Language Surrounding Soft Tissue Tumor Operations**
Kenneth Gundle, MD
- Poster 215 **Wound-Healing Complications Disrupt Early Patient-Reported Recovery After Limb-Sparing Soft Tissue Sarcoma Surgery**
Riley A. OToole
- Poster 216 **Prognosis Prediction Using Blood Examination Prior to Pazopanib Administration for Advanced Soft Tissue Sarcoma**
Ryuta Iwanaga, MD
- Poster 217 **Outcomes of Staged Prophylactic Femoral Nailing Following Soft Tissue Sarcoma Resection**
Kenneth Gundle, MD
- Poster 218 **Hypofractionated Radiation Produces Distinct Therapeutic and Temporal Immune Profiles in Murine Undifferentiated Pleomorphic Sarcoma and Informs Sequential STING Agonist Therapy**
Michael Monument, MD
- Poster 219 **Application of the Modified Frailty Index in Soft Tissue Sarcoma Patients**
Christina Gutowski, MD MPH
- Poster 220 **Surgical Outcome Differences for a Cemented Versus Hybrid Approach in Patients with Metastatic Disease Undergoing Hip Arthroplasty**
Ben Baranker
- Poster 221 **Open Biopsy is Associated with Increased Use of Advanced Tissue Closure Techniques Relative to Needle Biopsy Following Soft Tissue Sarcoma Excision: An Analysis of the Musculoskeletal Tumor Registry**
Adam S. Levin, MD, MBA
- Poster 222 **Does Inadvertent Excision of Upper Extremity Soft Tissue Sarcoma Affect Survival?**
Alayna Vaughan, MD



50TH ANNIVERSARY MSTS ANNUAL MEETING

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Michael B. Amrami, MPH
- Poster 224 **The Genomic Landscape of Glomus Tumors: Identifying Potential Loss-of-Function Drivers and Alternative Mutational Mechanisms**
Sung-Suk Chae, MD
- Poster 225 **Quality of Initial MRI Reports for Soft-Tissue Sarcomas and Its Association with Diagnostic Accuracy**
Eric Kholodovsky, MD
- Poster 226 **Withdrawn at Request of Submitter**
- Poster 227 **Pooled Safety of Vimseltinib in Patients (Pts) with Tenosynovial Giant Cell Tumor (TGCT) who Received no Prior Colony-Stimulating Factor 1 Receptor (CSF1R) Inhibitor Therapy**
Nicholas Bernthal, MD
- Poster 228 **Re-Intervention Patterns Following Initial Treatment Strategies in Benign Vascular Soft Tissue Tumors of the Extremities**
Recep Ozturk, MD
- Poster 229 **Redefining Wound Morbidity After Extremity Soft Tissue Sarcoma Resection Using a Severity Based, Intervention-Anchored Classification Framework**
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- Poster 230 **Perivascular Epithelioid Cell Tumors (PEComas): A Single-Institution Case Series with Emphasis on Musculoskeletal Presentations**
Malcolm N Hamilton-Hall
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Jayanth Kashyap
- Poster 230 **Determinants of Primary Amputation in Extremity Sarcoma: A Population-Based Analysis of Definitive Surgical Management**
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Casey Abernethy
- Poster 234 **RNA-Protein Discordance in Sarcoma Reveals Therapeutic Vulnerabilities Missed by Transcriptomic Profiling**
Casey Abernethy
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Casey Abernethy
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Kaitlin Porter, DO
- Poster 237 **Psychiatric Outcomes Associated with Extremity Sarcoma Diagnosis**
Jay Chavakula
- Poster 238 **High Local Recurrence Rates in Patients Diagnosed with Myxofibrosarcoma**
Chase Nowaczyk

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South Foyer, West Foyer and Back of General Session Room

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Amy Zeller, MD
- Poster 240 **VAC Temporization Reduces Local Recurrence in Superficial Myxofibrosarcoma**
Sonia E. Ubong, MBBS
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- Poster 243 **Association of Facility Case Volume with Survival in Extremity, Trunk, and Pelvic Soft Tissue Sarcoma: A National Analysis by Histologic Subtype**
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Joseph O. Werenski
- Poster 245 **Role of (Neo)adjuvant Pexidartinib for Tenosynovial Giant Cell Tumor**
Riley Kubaska
- Poster 246 **Is More Dose per Fraction More Harmful? A Meta-Analysis of Pre-Operative Hypofractionated Radiotherapy and Late Toxicity in Soft Tissue Sarcoma**
Meena Bedi, MD, MS
- Poster 247 **Impact of Pathologic Necrosis on Clinical Outcomes Following Neoadjuvant Radiation for Soft Tissue Sarcoma**
Alan T. Blank, MD, MS
- Poster 248 **Patient-Generated Domains of Recovery in Soft Tissue Sarcoma: A Longitudinal Analysis Using the Patient-Generated Index**
Krista Goulding, MD, MPH
- Poster 249 **How Have Positive Results from Recent SARC Immunotherapy Trials Changed the Treatment for Soft Tissue Sarcoma? An NCDB Analysis**
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- Poster 250 **Does Compartmental Location Predict Oncologic Outcomes in Myxoid Liposarcoma?**
Sonia E. Ubong, MBBS
- Poster 251 **Withdrawn at Request of Submitter**
- Poster 252 **Performance of Artificial Intelligence Systems on an Orthopedic Board Certification Examination: A Comparative Study**
Ricardo Becker, MD
- Poster 253 **Outcomes of Pelvis Resections and Reconstructions Using 3D Printed Instruments Referencing the Acetabulum**
William Eward, MD, DVM



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- Poster 254 Does Apple Health Data Show Increased Functional Outcomes in Transfemoral Osseointegration Patients?
Kara Churovich
- Poster 255 Intravenous Tranexamic Acid Reduces Blood Loss and Wound Complications in Orthopedic Oncology
Surgery: A Multivariable Analysis
Ali Zarezadeh, MD
- Poster 256 Smartwatch-Based Biomarkers of Functional Recovery and Decline in Musculoskeletal Oncology:
A Prospective Clinical Trial
Brian Benyamini
- Poster 257 Biomechanical Analysis of Unifi MI Stem Fixation: A Combined Finite Element and Experimental Analysis
John A. Abraham MD, FACS
- Poster 258 Evaluation of Online Learning Platforms in Orthopaedic Oncology
Lee Zuckerman, MD



Disclosure List/Author Index

MSTS 2026 Annual Meeting Faculty Disclosures

All relevant financial relationships have been mitigated

Albert J. Aboulafia (Baltimore, MD)

Submitted on: 07/21/2026

This individual reported nothing to disclose.

Taha Aksoy (Turkey)

Submitted on: 5/14/2025

This individual reported nothing to disclose.

Lahin Malik Amlani (Baltimore, MD)

Submitted on: 6/9/2025

This individual reported nothing to disclose.

Megan E. Anderson (Boston, MA)

(Program Committee)

Submitted on: 9/2/2025

Harvard Medical Faculty: Type: Fiduciary Officer

Clinical Orthopaedics and Related Research (CORR): Type: Paid Consultant

Musculoskeletal Tumor Society - Advocacy Task Force, Fellowship

Committee, Musculoskeletal Tumor Registry Committee; New

England Orthopedic Society - Nominating Committee: Type:

Board of Directors or committee member Self

ABJS Associate Editor - CORR; Consultant Reviewer - JPO:

Type: Editorial or governing board Self

Ahmed Aoude (CA)

Submitted on: 8/8/2026

This individual reported nothing to disclose.

Raffi Stephen Avedian (Redwood City, CA)

Submitted on: 6/3/2025

This individual reported nothing to disclose.

Tessa Balach (Chicago, IL)

Submitted on: 07/21/2026

This individual reported nothing to disclose.

Meredith Bartelstein (New York, NY)

Submitted on: 4/10/2025

This individual reported nothing to disclose.

Ricardo Gehrke Becker (Brazil)

Submitted on: 8/29/2025

This individual reported nothing to disclose.

Ana Cecilia Belzarena-Genovese (Columbia, MO)

(Program Committee)

Submitted on: 4/5/2026

This individual reported nothing to disclose.

Joseph Benevenia*(Newark, NJ)

Submitted on: 5/1/2025

GE Healthcare: Type: Stock

Amgen Inc.: Type: Stock

JPMorgan Chase and Company: Type: Stock

SICOT/Subspecialty Tumor Committee/Chair: Type: Board of

Directors or committee member Self

Brian Benyamini (Cleveland, OH)

Submitted on: 4/2/2026

This individual reported nothing to disclose.

Nicholas M. Bernthal (Santa Monica, CA)

Submitted on: 5/29/2026

David Geffen School of Medicine at UCLA: Type: Employment

Zimmer Biomet Holdings, Inc.: Type: IP Royalties

U.S. Department of Defense: Type: IP Royalties

NIH Clinical Center: Type: IP Royalties

Deciphera Pharmaceuticals Inc.: Type: Consultant

Zimmer Biomet Holdings, Inc.: Type: Consultant

Trellis Bioscience, INC: Type: IP Royalties

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Alan T. Blank (Chicago, IL)

Submitted on: 4/4/2026

Johnson & Johnson/Depuy Orthopedic: Type: Consultant

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Signature Orthopedics: Type: Consultant

Onkos Surgical, Inc.: Type: Consultant

MSTS: Type: Board of Directors or committee member Self

JSO: Type: Editorial or governing board Self

Anthony Bozzo (CA)

Submitted on: 6/20/2026

This individual reported nothing to disclose.

Danielle Greig Brown (Los Angeles, CA)

Submitted on: 6/9/2025

This individual reported nothing to disclose.

* The content of this activity is not related to the business lines or products of their employer/company.

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*** Participating as a technician to teach the safe and proper use of medical devices, and do not recommend whether or when a device is used.



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All relevant financial relationships have been mitigated

Ava Brozovich (Columbus, OH)

Submitted on: 5/20/2026

This individual reported nothing to disclose.

Zachary Burkke (Cleveland, OH)

Submitted on: 4/23/2025

This individual reported nothing to disclose.

Matthew Cable (New Orleans, LA)

Submitted on: 6/2/2026

Musculoskeletal Transplant Foundation: Type: Medical Board of Trustees, LSU representative

Carbofix Inc: Type: Consultant

Medtronic, Inc.: Type: Consultant

Alexandra Kathleen Callan (Dallas, TX)

Submitted on: 4/26/2026

Musculoskeletal Transplant Foundation Inc.: Type: Medical Board of Trustees

Onkos Surgical, Inc.: Type: Consultant

Osteosarcoma Institute: Type: Strategic Advisory Board Member

National Comprehensive Cancer Network (NCCN): Type: Bone Tumor Guidelines Committee

American Academy of Orthopaedic Surgeons: Type: Editorial Board - OrthoInfo AAOS

Stryker Corporation: Type: Consultant

Osteosarcoma Institute (OSI) NCCN Bone Tumor Guidelines

Committee MTF Biologics Medical Board of trustees: Type: Board of Directors or committee member Self

AAOS OrthoInfo - Editorial Board for Tumor Section: Type: Editorial or governing board Self

Sung-Suk Chae (Bronx, NY)

Submitted on: 5/21/2026

This individual reported nothing to disclose.

Stephen William Georges Chenard (Nashville, TN)

Submitted on: 6/1/2026

This individual reported nothing to disclose.

Edward Y. Cheng (Minneapolis, MN)

Submitted on: 6/24/2026

Journal of Bone and Joint Surgery: Type: Employment

Type: Other Intellectual Property

MTF biologics: Type: Medical Board of Trustees

Journal of Bone and Joint Surgery: Type: Editorial or governing board Self

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EMD Serono: Type: Consultant

DJO, LLC: Type: Consultant

Stryker: Type: Consultant

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AAOS Hip & Knee Evaluation Committee; MSTs Fellowship Committee; ORS Implant Section President: Type: Board of

Directors or committee member Self

Arthroplasty, BMC Surgery: Type: Editorial or governing board Self

Yang-Guk Chung (Korea, Republic of)

Submitted on: 7/1/2025

This individual reported nothing to disclose.

David Cameron Clever (Saint Louis, MO)

Submitted on: 4/9/2025

This individual reported nothing to disclose.

Michael James Colello (Los Angeles, CA)

Submitted on: 11/5/2025

This individual reported nothing to disclose.

Christopher Collier (Indianapolis, IN)

(Program Committee)

Submitted on: 11/6/2025

This individual reported nothing to disclose

Anna R. Cooper (Croton On Hudson, NY)

Submitted on: 5/23/2026

American Orthopaedic Association: Type: End Point Review Committee

Subspecialty Editor for Frontiers in Pediatrics: Type: Editorial or governing board Self

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(Program Committee)

Submitted on: 6/23/2026

Zimmer Biomet Holdings, Inc.: Type: Consultant

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Timothy A. Damron (Mexico, NY)

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Current Institution Type: IP Royalties

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Textbook through Wolters: Type: Editorial or governing board Self

* The content of this activity is not related to the business lines or products of their employer/company.

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All relevant financial relationships have been mitigated

Matthew R. DiCaprio (Albany, NY)

(Program Committee)

Submitted on: 1/4/2026

Springworks Therapeutics: Type: Paid Consultant

Musculoskeletal Tumor Society: Type: Fiduciary Officer

ABOS: Type: Fiduciary Officer

Sarcoma Strong Inc: Type: Fiduciary Officer

ABOS - Board of Director MSTS - Secretary: Type: Board of Directors or committee member Self

Julian Dilley (Gainesville, FL)

Submitted on: 4/23/2026

This individual reported nothing to disclose.

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(Program Committee)

Submitted on: 08/04/2026

Maine Orthopedic Review Self; Lecturer; deliver orthopaedic review lectures

Musculoskeletal Tumor Society Annual Meeting Planning Committee: Type: Board of Directors of committee member Self

Lisa Ercolano (Pittsburgh, PA)

Submitted on: 08/04/2026

This individual reported nothing to disclose.

Paniz Eizadkhah (Ann Arbor, MI)

Submitted on: 4/17/2026

This individual reported nothing to disclose.

William Curtis Eward (Durham, NC)

Submitted on: 6/24/2026

This individual reported nothing to disclose.

Teeto Ezeonu (Philadelphia, PA)

Submitted on: 6/11/2025

This individual reported nothing to disclose.

Nicola Fabbri (New York, NY)

(Program Committee)

Submitted on: 9/17/2025

This individual reported nothing to disclose.

Evanthia Galanis (Rochester, MN)

Submitted on: 8/4/2026

BGB communications: Type: Speaking Engagement

Medscape Education: Type: Summary Video Taping

Mayo Clinic: Type: Employment

Panayiotis Gavriil (Greece)

Submitted on: 6/2/2025

This individual reported nothing to disclose.

Aaron Gazendam (CA)

Submitted on: 08/04/2026

This individual reported nothing to disclose.

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Submitted on: 4/3/2026

OsteoCentric Technologies, Inc.: Type: Consultant

EMD Serono: Type: Advisory Board

Merck KGaA: Type: Speaking Engagement

Stryker Corporation: Type: Consultant

Member, Musculoskeletal Tumor Registry Steering Committee,

American Academy of Orthopaedic Surgeons Member, Practice

Management Committee, Musculoskeletal Tumor Society Member,

Musculoskeletal Tumor & Metabolic Disease Program Committee,

Musculoskeletal Tumor Society: Type: Board of Directors or committee member Self

Brandon Stephen Gettleman (Los Angeles, CA)

Submitted on: 4/14/2026

This individual reported nothing to disclose.

Michelle A. Ghert (CA)

Submitted on: 8/12/2025

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Musculoskeletal Tumor Society: Type: Board of Directors or committee member Self

Journal of Bone and Joint Surgery: Type: Editorial or governing board Self

C. Parker Gibbs (Gainesville, FL)

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This individual reported nothing to disclose.

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Gift of Hope: Type: Paid Consultant

Onkos Surgical, Inc.: Type: Paid Consultant

Amanda Goldin (Encinitas, CA)

Submitted on: 6/1/2025

This individual reported nothing to disclose.

Krista Goulding (Phoenix, AZ)

Submitted on: 6/4/2026

This individual reported nothing to disclose.

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All relevant financial relationships have been mitigated

Kenneth Robert Gundle (Portland, OR)

Submitted on: 3/19/2026

Presage Biosciences: Type: Clinical Trials – Principal Investigator

Springworks Therapeutics: Type: Clinical Research – Principal Investigator

Musculoskeletal Tumor Society, Finance Committee: Type: Board of Directors or committee member Self

Associate Editor at Clinical Orthopaedics & Related Research: Type: Editorial or governing board self

Rajul Gupta (Cincinnati, OH)

Submitted on: 6/6/2025

This individual reported nothing to disclose.

Christina J. Gutowski (Camden, NJ)

Submitted on: 4/3/2026

Adler Foundation: Type: Consultant

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Editorial Board, Surgical Collective: Type: Editorial or governing board Self

Christopher D. Hamad (Los Angeles, CA)

Submitted on: 4/2/2026

This individual reported nothing to disclose.

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Stryker Corporation: Type: Consultant

MSTS - Registry Committee, member: Type: Board of Directors or committee member Self

Robert Mikael Henshaw (Washington, DC)

Submitted on: 07/22/2026

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Matthew Charles Hess (Birmingham, AL)

Submitted on: 4/9/2026

This individual reported nothing to disclose.

Harrison Ho (Moorpark, CA)

Submitted on: 6/2/2025

This individual reported nothing to disclose.

Yvette Ho (Morristown, NJ)

(Program Committee)

Submitted on: 11/8/2025

Deciphera Pharmaceuticals Inc.: Type: Paid Consultant

MSTS- member of membership committee + Annual Meeting

Planning Committee. AAOS- member of education and assessment committee: Type: Board of Directors or committee member Self

Bang H. Hoang (Bronx, NY)

Submitted on: 6/10/2025

This individual reported nothing to disclose.

Ginger E. Holt (Nashville, TN) (Program Committee)

Submitted on: 6/1/2026

This individual reported nothing to disclose.

Francis J. Hornicek *(Miami, FL)

(Program Committee Chair)

Submitted on: 4/2/2026

Bone Solutions: Type: Stock Option

Stryker Corporation: Type: Consultant

International Society of Limb Salvage (Former President Elect): Type: Board of Directors or committee member Self

Adrian Ibanez-Navarro (Spain)

Submitted on: 3/31/2026

This individual reported nothing to disclose.

Jungo Imanishi (Japan)

Submitted on: 6/22/2026

Japanese Orthopaedic Trauma Association: Type: Committee

Member, Pathological Fracture Committee

Igaku-Shoin Ltd.: Type: Royalties / Publishing

Japan Medical Association: Type: Honoraria / publishing

Teijin Pharma Limited: Type: Speaker

Daiichi Sankyo Co., Ltd.: Type: Speaker/Faculty

Zimmer Biomet G.K.: Type: Speaker/Faculty

Elsevier Japan: Type: Royalties / Publishing

Zimmer Biomet G.K.: Type: Consultant

Zen Nihon Byoin Shuppankai Co., Ltd.: Type: Royalties / Publishing

Japan Carbon-ion Radiation Oncology Study Group: Type:

Subcommittee Member

Nagoya University: Type: Honoraria

Nankodo Co., Ltd.: Type: Nankodo Co., Ltd.

Miwa-Shoten Ltd.: Type: Publishing

Kyowa Kirin Co., Ltd.: Type: Speaker/Faculty

Japanese Orthopaedic Trauma Association: Type: Speaking Engagement

Japanese Orthopaedic Association (JOA): Type: Committee Member, Bone and Soft Tissue Tumor Committee

Medical View Co., Ltd: Type: Royalties / Publishing

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Janssen Pharmaceutical K.K.: Type: Speaker

Ohara Pharmaceutical Co., Ltd.: Type: Speaker/Faculty

Japanese Musculoskeletal Oncology Group (JMOG): Type: Executive Secretary

1. Japanese Orthopaedic Trauma Association, Committee Member, Pathological Fracture Committee 2. Japanese Musculoskeletal

* The content of this activity is not related to the business lines or products of their employer/company.

** The content is limited to basic science research, such as preclinical research and drug discovery, or the methodologies of research, and they do not make care recommendations.

*** Participating as a technician to teach the safe and proper use of medical devices, and do not recommend whether or when a device is used.

All relevant financial relationships have been mitigated

Jungo Imanishi (Japan) *continued*

Oncology Group (JMOG), Executive Secretary 3. Japanese Orthopaedic Association (JOA), Committee Member, Bone and Soft Tissue Tumor Committee 4. Japanese Sarcoma Treatment and Research (JSTAR), Committee Member, Medical Insurance Committee 5. Japan Carbon-ion Radiation Oncology Study Group (J-CROS), Subcommittee Member, Bone and Soft Tissue Tumor Subcommittee: Type: Board of Directors or committee member Self

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Shintaro Iwata (Japan)

Submitted on: 5/28/2025

This individual reported nothing to disclose.

Jun Iwatsu (Japan)

Submitted on: 8/2/2026

This individual reported nothing to disclose.

Eugene Jang *(Oakland, CA)

(Program Committee)

Submitted on: 6/25/2026

Ricoh USA, Inc: Type: Sponsored Clinical Trial

Discloser Type: IP Royalties

CarboFix: Type: Stock Option

Discloser Type: IP Royalties

Insight Surgery: Type: Consultant

Discloser Type: IP Royalties

Musculoskeletal Tumor Society - Annual Meeting Planning

Committee International Society of Limb Salvage - Jigs and

Navigation Subcommittee: Type: Board of Directors or committee member Self

Robin L. Jones (United Kingdom)

Submitted on: 8/19/2026

Inhibrx: Type: Consultant

Servier Pharmaceuticals LLC: Type: Consultant

EMSOS: Type: Board of Directors or committee member Self

ESMO Rare Cancers: Type: Editorial or governing board Self

Min Wook Joo (Korea, Republic of)

Submitted on: 11/4/2025

Current Institution Type: IP Royalties

Alysia K. Kemp (Houston, TX)

Submitted on: 6/24/2026

EMD Serono: Type: Consultant

J Robert Gladden Orthopedic Society: Type: Board of Directors or committee member Self

Shachar Kenan (New Hyde Park, NY)

Submitted on: 11/10/2025

This individual reported nothing to disclose.

Joseph Keith Kendal (CA)

Submitted on: 6/9/2025

This individual reported nothing to disclose.

Anna Andranik Khachatrian (La Jolla, CA)

Submitted on: 5/20/2026

Johnson & Johnson/Depuy Orthopedic: Type: Consultant

SICOT: Type: Editorial or governing board Self

Tae Won Benjamin Kim (Camden, NJ)

Submitted on: 3/1/2026

This individual reported nothing to disclose.

David M. King (Pewaukee, WI)

Submitted on: 4/2/2026

This individual reported nothing to disclose.

Divakar Lal* (Syracuse, NY)

Submitted on: 4/5/2026

Centene Corporation: Type: Stock

Gilead Sciences, Inc.: Type: Stock

Joshua Lawrenz (Brentwood, TN)

(Program Committee)

Submitted on: 4/9/2026

Musculoskeletal Tumor Society: Type: Fiduciary Officer

Musculoskeletal Tumor Society (MSTS) Research Committee

Member, Musculoskeletal Tumor Registry (MsTR) Steering

Committee Member: Type: Board of Directors or committee member Self

Alexander Leandros Lazarides (Tampa, FL)

Submitted on: 11/4/2025

Restor3d, inc.: Type: Paid Consultant

Lee Rodney Leddy (Charleston, SC)

(Program Committee)

Submitted on: 6/10/2025

This individual reported nothing to disclose.

Francis Young-In Lee (New Haven, CT)

(Program Committee)

Submitted on: 5/29/2026

L&J Bio: Type: Advisory Board

Musculoskeletal Tumor Society: Type: Board of Directors or committee member Self

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50TH ANNIVERSARY MSTs ANNUAL MEETING

All relevant financial relationships have been mitigated

G. Douglas Letson (Tampa, FL)

Submitted on: 6/11/2026

Stryker Corporation: Type: Consultant

Adam S. Levin (Baltimore, MD)

Submitted on: 4/3/2026

Ensysce Biosciences: Type: Fiduciary Officer

American Medical Association/American Orthopaedic Association --

CPT Advisory Board; American Academy of Orthopaedic Surgeons

-- Coding Coverage and Reimbursement Committee, Registry

Oversight Committee; Musculoskeletal Tumor Society -- Practice

Management Committee: Type: Board of Directors or committee

member Self

JBJS -- Associate Editor for CME Journal of Bone Oncology --

Editorial Board: Type: Editorial or governing board Self

Valerae O. Lewis (Houston, TX)

Submitted on: 5/21/2025

This individual reported nothing to disclose.

Patrick P. Lin (Houston, TX)

Submitted on: 6/5/2025

MTF Biologics: Type: Paid Consultant

Dieter Lindskog (New Haven, CT)

Submitted on: 3/19/2026

This individual reported nothing to disclose.

Santiago Andres Lozano Calderon (Boston, MA)

(Program Committee)

Submitted on: 6/8/2026

Musculoskeletal Tumor Society: Type: Member Executive Committee

Musculoskeletal Tumor Society: Type: IP Royalties

Onkos Surgical, Inc.: Type: Consultant

IllumiOss Medical, Inc.: Type: Consultant

Journal of Bone and Joint Surgery: Type: Associate Editor

MSK Oncology

Massachusetts General Hospital: Type: Employment

New England Orthopedic Society: Type: Member Executive

Committee

MSTS Chair Fellowship Committee 2023-2026: Type: Board of

Directors or committee member Self

JBJS associate Editor: Type: Editorial or governing board Self

Gerhard Emil Maale, III (Plano, TX)

Submitted on: 5/24/2026

Current Institution Type: IP Royalties

Type: Other Intellectual Property

Micocalo: Type: Stock

Joel L. Mayerson (Columbus, OH)

Submitted on: 4/2/2026

Onkos Surgical, Inc.: Type: Consultant

Type: Other Intellectual Property

National Comprehensive Cancer Network- Bone cancer committee;

AAOS Council on Advocacy: Type: Board of Directors or committee

member Self

Susan Marie McDowell (Rochester, NY)

Submitted on: 5/30/2026

This individual reported nothing to disclose.

Aaron Mebrahtu (Durham, NC)

Submitted on: 7/21/2026

This individual reported nothing to disclose.

Bradley R. Melvin (Leclaire, IA)

Submitted on: 2/11/2026

This individual reported nothing to disclose.

Tong Meng (China)

Submitted on: 7/15/2026

This individual reported nothing to disclose.

Nathan Wesley Mesko (Cleveland, OH)

Submitted on: 4/4/2026

3M Corporation: Type: Consultant

Bone Support: Type: Consultant

Stryker Corporation: Type: Consultant

Onkos Surgical, Inc.: Type: Consultant

DePuy Synthes Products, Inc.: Type: Consultant

AAOS Musculoskeletal Tumor Registry Steering Committee ABOS -

Executive Committee -- Member at Large MSTs - Practice

Management Committee - Member: Type: Board of Directors or

committee member Self

Ex-Officio non-voting member, CORR Board of Trustees: Type:

Editorial or governing board Self

Deborah Meyer (Schaumburg, IL) (staff)

Submitted on: 6/11/2026

This individual reported nothing to disclose.

Atsushi Mihara (Japan)

Submitted on: 6/1/2026

This individual reported nothing to disclose.

Benjamin James Miller (Iowa City, IA)

Submitted on: 6/11/2025

This individual reported nothing to disclose.

Kerri Mink (Schaumburg, IL) (staff)

Submitted on: 4/2/2026

This individual reported nothing to disclose.

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All relevant financial relationships have been mitigated

David G. Mohler (Redwood City, CA)

Submitted on: 6/3/2025

This individual reported nothing to disclose.

Michael Monument (CA)

Submitted on: 08/03/2026

Journal of Surgical Oncology: Editorial or governing board

Adeem Nachabe

Submitted on: 08/04/2026

This individual reported nothing to disclose.

Elham Nasri (Gainesville, FL)

Submitted on: 7/14/2026

This individual reported nothing to disclose.

Vincent Ng (Baltimore, MD)

Submitted on: 3/30/2026

Type: Other Intellectual Property

Disclosure Type: IP Royalties

Current Institution Type: IP Royalties

Lukas M. Nystrom (Cleveland, OH)

Submitted on: 5/25/2026

This individual reported nothing to disclose.

Regis O'Keefe – (St. Louis, MO)

Submitted on: 6/05/2025

Journal of Orthopaedic Translation – editorial or governing board

Andrew Ormseth (Minneapolis, MN)

Submitted 7/27/2026

This individual reported nothing to disclose.

Eduardo J. Ortiz-Cruz, Sr (Spain)

Submitted on: 7/26/2026

This individual reported nothing to disclose.

Shervin V. Oskouei (Atlanta, GA)

(Program Committee)

Submitted on: 8/19/2025

This individual reported nothing to disclose.

Janet Elizabeth Panoch (Beech Grove, IN)

Submitted on: 7/14/2026

This individual reported nothing to disclose.

Panayiotis J. Papagelopoulos (Greece)

Submitted on: 6/7/2025

This individual reported nothing to disclose.

Katelyn Parsons (Belle Mead, NJ)

Submitted on: 5/20/2025

This individual reported nothing to disclose.

Pablo Andrés Patiño (Ecuador)

Submitted on: 6/10/2026

This individual reported nothing to disclose.

Juan Pretell (Miami, FL)

Submitted on 4/9/2025

This individual reported nothing to disclose.

Rajiv Rajani (El Paso, TX)

Submitted on: 4/3/2026

BD Biosciences: Type: Consultant

Musculoskeletal Tumor Society: Type: Fiduciary Officer

MSTS Past President: Type: Board of Directors or committee member Self

Duncan C. Ramsey (Portland, OR)

Submitted on: 6/8/2026

Kuni Foundation: Type: IP Royalties

Oregon Health and Science University: Type: Employment

CORR: Type: Editorial or governing board Self

Kevin A. Raskin (Boston, MA)

Submitted on: 4/22/2026

Onkos Surgical, Inc.: Type: Consultant

Vinod Ravi* (Houston, TX)

Submitted on: 6/3/2025

OGN: Type: Stock

Iterion Therapeutics: Type: Paid Consultant

Daiichi Sankyo Company: Type: Paid Consultant

Deciphera Pharmaceuticals: Type: Paid Consultant

Insights Driven Research (IDR): Type: Paid Consultant

EMD Serono: Type: Paid Consultant

Aadi Bioscience: Type: Paid Consultant

EcoR1 Capital, LLC: Type: Paid Consultant

Ikena Oncology: Type: Paid Consultant

BostonGene: Type: Paid Consultant

Novartis: Type: IP Royalties

Oppenheimer & Co: Type: Paid Consultant

Deciphera Pharmaceuticals: Type: Paid Consultant

Aadi Bioscience: Type: IP Royalties

Athenex Pharmaceutical Division, LLC: Type: IP Royalties

Tracon Pharmaceuticals: Type: IP Royalties

The University of Texas MD Anderson Cancer Center: Type: Employment

Moderna: Type: Stock

Spencer Richardson (Indianapolis, IN)

Submitted on: 6/6/2025

This individual reported nothing to disclose.

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50TH ANNIVERSARY MSTS ANNUAL MEETING

All relevant financial relationships have been mitigated

Danielle Rider (Woodland Hills, CA)

Submitted on: 11/11/2025

This individual reported nothing to disclose.

Madeline G. Rieker (Charlotte, NC)

Submitted on: 5/14/2026

This individual reported nothing to disclose.

Ana Valeria Rigolino Teixeira (Brazil)

Submitted on: 4/13/2026

This individual reported nothing to disclose.

Prof. Pietro Ruggieri (Italy)

Submitted on: 4/3/2026

Stryker Type: IP Royalties

Exactech, Inc.: Type: Consultant

Exactech Type: IP Royalties

Associate Editor for EFORT Open Reviews (EOR), Journal of Bone & Joint Surgery (JBJS), Journal of Orthopedic Surgery and Research (JOSR): Type: Editorial or governing board Self

Thomas J. Scharschmidt (Delaware, OH) (Program Committee)

Submitted on: 6/9/2025

Deciphera Pharmaceuticals Inc.: Type: Paid Consultant

Onkos Surgical, Inc.: Type: Paid Consultant

Stryker: Type: Paid Consultant

Children's Oncology Group: Type: Board of Directors or committee member Self

Herbert S. Schwartz (Nashville, TN)

Submitted on: 11/5/2025

Musculoskeletal Transplant Foundation: Type: Fiduciary Officer

Herrick Siegel (Birmingham, AL)

Submitted on: 8/3/2026

FX Shoulder USA, Inc: Paid Consultant

United Orthopedics LLC: Paid Consultant

Aesculap AG: Paid Consultant

Corentec America, Inc.: Paid Consultant

Zimmer Bioment Holdings, Inc.: Paid Consultant

Orthopedics Today: Editorial or governing board

Brittany Simone (Cazenovia, NY)

Submitted on: 8/3/2026

This individual reported nothing to disclose.

Brian D. Snyder (Boston, MA)

Submitted on: 4/2/2026

BIOGEN: Type: Consultant

Orthopedic Research Society: Type: Employment

Alcyone: Type: Consultant

OrthoPediatrics Corp.: Type: Consultant

OREF - co-director Research grants program: Type: Board of Directors or committee member Self

Andre Ribeiro Do Valle Spiguel (Gainesville, FL)

Submitted on: 6/1/2025

This individual reported nothing to disclose.

Peter B. Steadman (Australia)

Submitted on: 6/1/2026

This individual reported nothing to disclose.

Mikaela H. Sullivan (Rochester, MN)

Submitted on: 4/2/2026

This individual reported nothing to disclose.

Kyle Sweeney (Overland Park, KS)

Submitted on: 7/20/2026

This individual reported nothing to disclose.

Xiaodong Tang (China)

Submitted on: 7/27/2026

This individual reported nothing to disclose.

Nicholas S. Tedesco * ** (Corvallis, OR)

Submitted on: 4/2/2026

Doctorpedia: Type: Stock

ROMTech: Type: Stock

Sonara MedTech: Type: IP Royalties

AAOS: Type: Board of Directors or committee member Self

Journal of the American Osteopathic Academy of Orthopedics: Type: Editorial or governing board Self

H. Thomas Temple (Miami, FL)

Submitted on: 5/30/2026

This individual reported nothing to disclose.

Richard M. Terek (Providence, RI)

Submitted on: 7/6/2026

This individual reported nothing to disclose.

Steven Thorpe (Castle Pines, CO)

(Program Committee)

Submitted on: 4/9/2026

Deciphera Pharmaceuticals Inc.: Type: Consultant

InhibRx: Type: Consultant

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Meagan E. Tibbo (Scottsdale, AZ)

Submitted on: 11/13/2025

This individual reported nothing to disclose.

Sonia E. Ubong (United Kingdom)

Submitted on: 6/1/2025

This individual reported nothing to disclose.

Michiel Van De Sande (Netherlands)

Submitted on: 07/16/2026

Universiteit Leiden; Type: Employment

Princess Maxima Medical Center—Netherlands; Type: Employment

EMSOS: Type: Board of Directors or committee member Self;

President

Implantcast: Advisory Board Member; Consultant

Deciphera: Advisory Board Member; Consultant

Merk: Advisory Board Member; Consultant

Synox Therapeutics Ltd: Advisory Board Member; Consultant

Julia Dawn Visgauss (Durham, NC)

(Program Committee)

Submitted on: 6/5/2025

Onkos Surgical, Inc.: Type: Paid Consultant

Paula Viza Gomes (Durham, NC)

Submitted on: 6/22/2025

This individual reported nothing to disclose.

William G. Ward, Sr* (Clemmons, NC)

Submitted on: 08/06/2026

PROTECT3D: Stock; Self

Ran Wei (China)

Submitted on: 7/14/2026

This individual reported nothing to disclose.

Robert Weinschenk (Oklahoma City, OK)

Submitted on: 4/1/2026

This individual reported nothing to disclose.

Kurt Richard Weiss (Pittsburgh, PA)

Submitted on: 08/03/2026

Biocerta Precision Diagnostics, Inc.: Type: Other Co-Founder;

Chair, Medical Advisory Board Sef

Felasfa M. Wodajo (Fairfax, VA)

Submitted on: 4/8/2025

This individual reported nothing to disclose.

Jay Wunder (CA)

Submitted on: 11/5/2025

This individual reported nothing to disclose.

Rui Yang (Houston, TX)

Submitted on: 5/24/2026

This individual reported nothing to disclose.

Matthew Yeager (Tampa, FL)

Submitted on: 6/6/2026

This individual reported nothing to disclose.

L. Daniel Wurtz (Indianapolis, IN)

Submitted on: 6/18/2026

This individual reported nothing to disclose.

Rosanna Lisa Wustrack (San Francisco, CA)

Submitted on: 1/14/2026

This individual reported nothing to disclose.

Eduardo Sadao Yonamine (Brazil)

Submitted on: 8/18/2026

Prevent Senior Hospitals: Type: Head of the Orthopaedic Oncology Group

Hospital Paulistano: Type: Head of the Orthopaedic Oncology Group

Santa Casa Hospitals: Type: Employment

Santa Casa Medical School of São Paulo: Type: Employment

Einstein Hospital Israelita: Type: Medical Staff Physician

Brazilian Orthopedic Society: Type: Chair of the Education and

Training Committee of the Brazilian

Society of Orthopaedics and Traumatol

Miami Anatomical Research Center: Type: Consultant

Brazilian Orthopedic Society Brazilian Oncology Orthopedic Society

Brazilian Sarcoma Group: Type: Board of Directors or committee

member Self

Brazilian Journal of Orthopedics - consultant member: Type: Editorial or governing board Self

Aylan Zafar (Miami, FL)

Submitted on: 6/1/2026

This individual reported nothing to disclose.

Amy Zeller (Iowa City, IA)

Submitted on: 7/21/2025

This individual reported nothing to disclose.

Ziyi Zhao (China)

Submitted on: 6/22/2026

This individual reported nothing to disclose.

Melissa Nicole Zimel (San Francisco, CA)

(Program Committee)

Submitted on: 9/3/2025

Onkos Surgical, Inc.: Type: Paid Consultant

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50TH ANNIVERSARY MSTS ANNUAL MEETING

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Lee M. Zuckerman (Los Angeles, CA)

Submitted on: 4/13/2026

InhibRx: Type: Research support

Deciphera Pharmaceuticals Inc.: Type: Consultant

Globus Medical, Inc.: Type: Consultant

NuVasive Specialized Orthopedics, Inc.: Type: Consultant

LLRS Treasurer, MSTS Education Committee, ISOLS Developing

Countries Committee, ISOLS Augmented Reality Committee,

AOA Financial Committee: Type: Board of Directors or Committee member Self

JBJS Associate Editor for CME: Type: Editorial or governing board Self

DISCLAIMER

The material presented at this Annual Meeting has been made available by the MSTS for educational purposes only. This material is not intended to represent the only, nor necessarily the 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, which may be helpful to others who face similar situations.

The Musculoskeletal Tumor Society disclaims any and all liability for injury or other damages resulting to any individual attending a course and for all claims, which may arise out of the use of the techniques, demonstrated there in by such individuals, whether these claims shall be asserted by a physician or any other person.

DISCLOSURE

Each faculty member in this MSTS Annual Meeting has been asked to disclose if he or she has received something of value from a commercial company or institution, which relates directly or indirectly to the subject of their presentation.

The AAOS and the MSTS do not view the existence of these disclosed interests or commitments as necessarily implying bias or decreasing the value of the author's participation in the course.



MSTS Headquarters

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Schaumburg, IL 60173

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SPECIALTY DAY 2027

Las Vegas, Nevada

March 6, 2027

7:30 am – 3:30 pm

Specialty Day Planning Committee

Alexander Lazarides, MD, Chair

Samir Sabharwal, MD, Vice Chair

James Wittig, MD, Member-at-Large



Details at www.msts.org



2027 ANNUAL MEETING

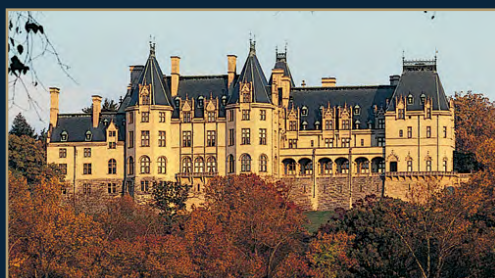
OMNI GROVE PARK INN • ASHEVILLE, NORTH CAROLINA

Matthew R. DiCaprio, MD
PRESIDENT

Lee R. Leddy, MD
PROGRAM CHAIR

Save the Date

OCTOBER 20-22, 2027



An Evening Together

THURSDAY, OCTOBER 21
THE BILTMORE ESTATE

Join us in the beautiful mountains
of Asheville living our values.

COLLABORATION • COMMUNITY
COMPASSION • EXCELLENCE

msts.org