The Pittsburgh Spine Summit is an annual meeting devoted to advancing the field of spine surgery through the exposition of surgical and technical complications. The program is designed for senior-level residents and early-career spine surgeons from both Neurosurgery and Orthopedic Surgery backgrounds. Physician assistants, nurse practitioners, nurses, and other physicians involved in the care of patients with spinal disease are also encouraged to attend.

The program begins Thursday, November 5, and continues through Saturday, November 7, at Allegheny General Hospital. The course will consist of:

- Lectures from world-renowned invited faculty discussing their most complicated cases
- Presentation of standard and advanced approaches for the thoracolumbar and cervical spine
- Hands-on cadaver dissection sessions which will expose attendees to and reinforce their knowledge in the latest technology in minimally invasive surgical techniques
- Interactive case review sessions with invited faculty
- A resident research competition with the opportunity to present to all attendees

Every year a host of preeminent surgeons take the stage to discuss their most thought provoking lessons gained from their surgical experience. Past keynote speakers have included Volker Sonntag, MD; Hansen Yuan, MD; Arthur Steffe, MD; Edward Benzel, MD; and Hamilton Hall, MD.

**Intended audience:** neurosurgeons, orthopaedic spine surgeons, residents, medical students, basic science researchers, physician assistants, nurse practitioners, nurses, and others interested in the latest advances in spine surgery.

**Conference Directors**

**Boyle Cheng, PhD**
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Neuroscience Institute
Allegheny Health Network

**Alexander Yu, MD**
Director, Surgical Neuro-oncology, Skull Base Surgery
Surgical Director Neurologic Intensive Care Unit
Neuroscience Institute
Allegheny Health Network

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Neuroscience Institute
Allegheny Health Network
Jason Sumner
Clinical Research Coordinator
Neuroscience Institute
Allegheny Health Network

Invited Faculty
Paul A. Anderson, MD, MS
Professor, Department of Orthopedics & Rehabilitation
University of Wisconsin
Madison, Wisconsin
James Billys, MD
The B.A.C.K. Center
Melbourne, Florida
Scott Blumenthal, MD
Texas Back Institute
Plano, Texas
John J. Carbone, MD
Director, Orthopaedic Spine Services Medstar Harbor Hospital
Baltimore, Maryland
Ramona Castellvi
Guest of Honor
Florida Spine Institute
Clearwater, Florida
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BioSpine Institute
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Jeffrey Dick, MD
Twin Cities Orthopedics
Minneapolis, Minnesota
John France, MD
Department of Orthopaedics
West Virginia University
Morgantown, West Virginia
Joseph C. Maroon, MD, FACS
Clinical Professor and Vice Chairman
University of Pittsburgh Medical Center
Pittsburgh, Pennsylvania
Don Moore, MD
Assistant Professor
Department of Orthopaedics
University of Missouri
Columbia, Missouri
Raj Nangunoori, MD
Post Doc Fellow
Weill Cornell Brain and Spine Center
Doug Orr, MD
Center for Spine Health, Cleveland Clinic
Cleveland, Ohio
Ali Kemal Ozturk, MD
Assistant Professor of Neurosurgery
Pennsylvania Hospital
Philadelphia, Pennsylvania
Stephen Pirris, MD
St. Vincent Brain and Spine Institute
Jacksonville, Florida

Workshop Instructors
Danial Altman, MD
Eric Altsculer, MD
Phil Lee, MD
Jody Leonardo, MD
Michael Patterson, MD
Richard Prostko, MD
Mark Sangimino, MD
Ryan Sauber, MD
Timothy Sauber, MD
Gary Schmidt, MD
Nestor Tomycz, MD
Kevin Walsh, MD
Richard Williamson, MD
Alexander Yu, MD

Faculty Disclosure
As a provider accredited by ACCME, Allegheny General Hospital must ensure balance, independence, objectivity and scientific rigor in its educational activities. Course director(s), planning committee, faculty, and all others who are in a position to control the content of this educational activity are required to disclose all relevant financial relationships with any commercial interest related to the subject matter of the educational activity. Safeguards against commercial bias have been put in place. Faculty also will disclose any off-label and/or investigational use of pharmaceuticals or instruments discussed in their presentation. Disclosure of this information will be published in course materials so those participants in the activity may formulate their own judgments regarding the presentation.

Note: CME credit is not provided for industry-sponsored workshop.
Thursday, November 5

SPONSORED SURGICAL SKILLS DAY
Center for Surgical Arts, Allegheny General Hospital

11:00 PM  Registration and Lunch, CSA Jannetta Conference Room

12:00 PM  Welcome and Introduction to Bioskills
           Boyle Cheng, PhD

12:05 PM  Sponsored Surgical Skills Lab Competition, CSA South Tower, 4th Floor
           – Navigation Station
           – Suture Station
           – Egg Drilling Station
           – K-Wire Placement
           – Breach Identification
           – Rod Bending
           – VR Side Stations
             a. Realto
             b. Osteocool
             c. Simulator (Spine)

4:00 PM   PA-C Hands-On Session, CSA South Tower, 4th Floor
           – Pedicle Screw & TLIF Placement T2-L5 with Nav
           – Cervical Disc Training
           – VR Side Stations
             a. Realto
             b. Osteocool

4:00 PM   Welcome and Introduction, Alexander Yu, MD, Magovern Conference Center, 2nd Floor
           Resident Research and Surgical Training Session
           1. Surgical Simulators, Mark Sangimino, MD
           2. Surgical Skills Training, Paul Anderson, MD
           3. Rod Bending and Stress Concentration, Jeffrey Dick, MD
           4. Biofedelic Spine Analogs, Raj Nangunoori, MD
           Resident Research Poster Presentation

6:15 PM   Travel to Fairmont Hotel

7:00 PM   Sponsored Reception, Andy's, Fairmont Hotel
**Friday, November 6**  
*Magovern Auditorium, Magovern Conference Center and Center for Surgical Arts*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 AM</td>
<td>Registration/Breakfast, <em>Magovern Conference Center</em></td>
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<tr>
<td>8:00 AM</td>
<td>Sponsored Cadaver Lab Session, <em>CSA South Tower, 4th Floor</em></td>
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<tr>
<td>11:00 AM</td>
<td>Break, <em>Magovern Conference Center, 2nd Floor</em></td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Sponsored Cadaver Lab Session, <em>CSA South Tower, 4th Floor</em></td>
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<tr>
<td>2:00 PM</td>
<td>Introduction to Complications Session, <em>Magovern Auditorium</em> Boyle Cheng, PhD</td>
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<tr>
<td>2:15 PM</td>
<td>Spine Surgery Complications Competition Talk 1, <em>Larry Khoo, MD</em></td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Spine Surgery Complications Competition Talk 2, <em>Paul Anderson, MD</em></td>
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<tr>
<td>2:45 PM</td>
<td>Spine Surgery Complications Competition Talk 3, <em>John Carbone, MD</em></td>
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<tr>
<td>3:00 PM</td>
<td>Spine Surgery Complications Competition Talk 4, <em>Don Moore, MD</em></td>
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<tr>
<td>3:15 PM</td>
<td>Spine Surgery Complications Competition Talk 5, <em>Douglas Orr, MD</em></td>
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<tr>
<td>3:30 PM</td>
<td>Break, <em>Exhibit Area</em></td>
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<tr>
<td>3:45 PM</td>
<td>Spine Surgery Complications Competition Talk 6, <em>Bobby Tay, MD</em></td>
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<tr>
<td>4:00 PM</td>
<td>Spine Surgery Complications Competition Talk 7, <em>Stephen Pirris, MD</em></td>
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<tr>
<td>4:15 PM</td>
<td>Spine Surgery Complications Competition Talk 8, <em>John France, MD</em></td>
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<td>4:30 PM</td>
<td>Spine Surgery Complications Competition Talk 9, <em>Ali Ozturk, MD</em></td>
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<tr>
<td>4:45 PM</td>
<td>Spine Surgery Complications Competition Talk 10, <em>Scott Webb, MD</em></td>
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</tbody>
</table>
| 5:00 PM   | New Technologies: Alternatives to Fusion – Moderator: *Hamilton Hall, MD*  
  Low Back Pain Care Pathway Update, *Richard Prostko, MD*  
  Paradigm – Coflex, *Reginald Davis, MD*  
  Relievant – Intracept, *Jad Khalil, MD*  
  Intrinsic – Barricaid, *Oscar Yeh, PhD* |
| 5:45 PM   | Abbott – New Technology: Spinal Cord Stim for Back Pain  
  Moderator: *Nestor Tomycz, MD*  
  Allen W. Burton, MD  
  Christopher Koebbe, MD  
  *Merits of Medical Marijuana vs. Spinal Cord Stim*  
  Jack Kabazie, MD – Pros  
  Michael Patterson, MD – Cons |
| 6:30 PM   | Travel to Fairmont Hotel                                               |
| 7:00 PM   | Awards Presentations and Reception  
  – Steel Balls Award  
  – Castellvi Research Award, *James Billys, MD*  
  – Best Poster Presentation |
**Saturday, November 7**

**Magovern Conference Center & Center for Surgical Arts, Allegheny General Hospital**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:00 AM</td>
<td>Breakfast, <em>Magovern Conference Center, 2nd Floor</em></td>
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<tr>
<td>7:00 AM</td>
<td>Welcome and Introduction, <em>Donald Whiting, MD, Magovern Auditorium</em></td>
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<tr>
<td>7:05 AM</td>
<td>Spine Industry Update, <em>Robin Young, CFA</em></td>
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<tr>
<td>7:30 AM</td>
<td>Robot Talk 1, Globus, ExcelsiusGPS, <em>Christopher Maulucci, MD</em></td>
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<tr>
<td>7:45 AM</td>
<td>Robot Talk 2, Medtronic, Mazor, <em>TBD</em></td>
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<tr>
<td>8:00 AM</td>
<td>Robot Talk 3, DePuy Synthes, Robot Assisted Surgery, <em>TBD</em></td>
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<tr>
<td>8:15 AM</td>
<td>Robot Talk 4, Synaptive, Modus V, Cameron Piron</td>
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<tr>
<td>8:30 AM</td>
<td>Robot Talk 5, daVinci, Robot Assisted Cardiovascular Procedures, <em>Benny Weksler, MD</em></td>
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<tr>
<td>8:45 AM</td>
<td>Robot Talk 6, Stryker, Mako, <em>Timothy Sauber, MD</em></td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Robot Wars Hands-On Bioskills Lab, <em>CSA South Tower, 4th Floor</em></td>
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<tr>
<td>11:00 AM</td>
<td>Biologics and Biomaterials: Cost Effectiveness, <em>Magovern Auditorium</em></td>
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<td></td>
<td>Moderators: <em>Bob Spiro, PhD/Alexander Yu, MD</em></td>
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<td></td>
<td>– Ortho Rebirth – Rebosis, <em>Douglas C. Fredericks</em></td>
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<td>– Medtronic – Infuse, <em>Ben Reves, Ph.D.</em></td>
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<td>– Kuros – MagnetOs, <em>Charlie Campion, PhD</em></td>
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<td></td>
<td>– Cerapedics – P15, <em>Jeff Marx, PhD</em></td>
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<td></td>
<td>– Update on the Cell-Based Product: Commercial and Clinical Challenges, <em>Robert Spiro, PhD</em></td>
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<tr>
<td>12:00 PM</td>
<td>Lunch and Learn – Moderator: <em>Hamilton Hall, MD</em></td>
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<tr>
<td></td>
<td><em>Magovern Conference Center, 2nd Floor</em></td>
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<tr>
<td></td>
<td>– The History of Microneurosurgery, <em>Joe Maroon, MD</em></td>
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<td></td>
<td>Co-Presenter: <em>Vince Miele, MD</em></td>
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<td></td>
<td>– State of Motion Preservation, <em>Scott Blumenthal, MD</em></td>
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<tr>
<td>1:00 PM</td>
<td>High Time for High Tea: Biologics with <em>Howard An, MD</em></td>
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<tr>
<td>1:45 PM</td>
<td>Break, <em>Exhibit area, Magovern Conference Center, 1st Floor</em></td>
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<tr>
<td>2:00 PM</td>
<td>New Technology: The Future of Fusion, <em>Magovern Auditorium</em></td>
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<td></td>
<td>Moderator: <em>Hamilton Hall, MD</em></td>
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<td></td>
<td>– Spinal Simplicity – Single Position 360 Fusion, <em>Larry Khoo, MD</em></td>
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<td>– Carbofix, CarboClear, <em>Maziyar A. Kalani, MD</em></td>
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<td>– OPM – 3-D Printing, <em>Severine Zygmont, PhD</em></td>
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<td>– Commercially Available Interbody Cage Designs, <em>Stephen Pirris, MD</em></td>
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<td>– Lateral Approaches to the Lumbar Spine, <em>James Billys, MD</em></td>
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<tr>
<td>3:00 PM</td>
<td>Hands-On Cadaver Lab, <em>CSA South Tower, 4th Floor</em></td>
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<tr>
<td>5:15 PM</td>
<td>Shuttle Transport to Fairmont Hotel</td>
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<tr>
<td>6:15 PM</td>
<td>Shuttle Transport – Fairmont Hotel to Topgolf</td>
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<tr>
<td>7:00 PM</td>
<td>Topgolf, 400 Presto-Sygan Road, Bridgeville, PA 15017</td>
</tr>
</tbody>
</table>
Hotel Accommodations
Fairmont Hotel
510 Market Street
Pittsburgh, Pennsylvania 15222
For more information, contact Michele Birgelen at michele.birgelen@ahn.org

Disclosures

<table>
<thead>
<tr>
<th>Name</th>
<th>Commercial Interest</th>
<th>Role</th>
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<tbody>
<tr>
<td>Scott Blumenthal, MD</td>
<td>Aescllap</td>
<td>Consultant</td>
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<td>Bayliss Medical</td>
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<td>Centinel Spine</td>
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<td>Orthofix</td>
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<td>NEO Spine</td>
<td>Consultant</td>
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<tr>
<td>Joseph Maroon, MD</td>
<td>The Pittsburgh Steelers:</td>
<td>Consultant</td>
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<td></td>
<td>World Wrestling Entertainment, Inc.</td>
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<td>ImPACT Applications, Inc.</td>
<td>Stockholder</td>
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<td>CV Sciences: ImmunSYS, Inc.</td>
<td>Board Member</td>
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Hamilton Hall, MD Nothing to disclose

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