The field of spinal biologics is rapidly evolving as patients, researchers, and clinicians are recognizing its potential to treat challenging painful conditions. While the roles of both nonoperative and surgical treatment are relatively well-defined in the algorithm of spine care, the indications, risks, and concerns regarding biologics for a variety of spinal conditions have not been agreed upon. Because of the differences in regulatory pathways for many of these products, the availability of data is variable making administrative decision-making difficult. This meeting will bring together exciting minds from academia and industry to discuss the pertinent technologies and relevant issues in biologics use for spinal conditions.

7:30 a.m. Registration and Breakfast

8:00-8:15 a.m. Welcome and Introduction
- Current State of Affairs of Biologics in Spinal Conditions
  - Cost
  - Efficacy
  - Regulation
  - R&D
- Classification of Products
- Introduction of Sponsors
  *Wellington K. Hsu, MD*
  *Henry Tung, MD, Senior Vice President and President, Surgical Orthobiologics, Bioventus Surgical, Principal Sponsor*

**Allograft/Autograft**

8:15-8:30 a.m. When Does Local Autograft Work for Bony Spinal Fusion?
- Volume dependence
- Value of bone trap, burr shavings
- Placement
- Need for extender
  *Raymond J. Hah, MD*
8:30-8:45 a.m. DBM Fibers vs. Particles: Are All Formulations the Same?  
*Medtronic*  
*Alan Dang, MD*

8:45-9:00 a.m. How Technological Advances in Processing have Improved Allograft/DBM  
- DBM processing  
- Allograft processing  
- Growth factor retention  
- Handling properties  
- Fresh frozen vs. freeze-dried  
*Xtant Medical*  
*Gregory Juda, PhD*

9:00-9:15 a.m. Current Surgical Choices for Fusion Using Biologically Active Allograft  
*John G. Finkenberg, MD*

**Cellular-based matrices**

9:15-9:30 a.m. Mechanisms of Cellular-based Matrices  
- Is it the cells?  
- Is it the microenvironment?  
- Cell survival?  
*Carl A. Gregory, PhD*

9:30-9:45 a.m. How are CBMs Different from Each Other?  
- Cell counts  
- Types of cells  
- Accompanying matrices  
*Harvey E. Smith, MD*

9:45-10:00 a.m. Stem Cells for DDD  
- Degenerative cascade for DDD  
- New imaging modalities  
- Preclinical data  
- Clinical data  
*W. Mark Erwin, DC, PhD*

10:00-10:30 a.m. Break

**Synthetics**

10:30-10:40 a.m. How are Synthetics Bioactive?  
- Silicated substitution  
- Bioglass  
*Zorica Buser, PhD*

10:40-10:50 a.m. Implanting Bone Peptides – A New Category of Biologic?  
*Cerapedics*  
*Jeffrey G. Marx, PhD*
10:45-11:00 a.m. The Clinical Evidence of Synthetic Carriers in Spine Fusion  
*Stryker*
*Bianca Sirbu, PhD*

**Growth factors**

11:00-11:15 a.m. Are There Still Complication Concerns with BMP?  
*R. Todd Allen, MD, PhD*

**Innovation**

11:15-11:35 a.m. Innovation in Orthobiologics  
*Bioventus, Principal Sponsor*
*Samson Tom, PhD, MBA, PMP, Vice President, R&D, Bioventus Surgical*

11:35-11:45 a.m. Discussion

**Case Debates**

11:45 a.m.-12:00 p.m. 2-level ACDF  
*o Allograft*
*Jason W. Savage, MD*
*o PEEK with DBM/synthetic/CBM*
*R. Todd Allen, MD, PhD*
*o P15*
*Cerapedics*
*Jeffrey G. Marx, PhD*

12:00-12:20 p.m. 1-level TLIF  
*o Allograft/DBM*
*Jason W. Savage, MD*
*o Synthetics*
*Scott D. Daffner, MD*
*o CBM*
*Harvey E. Smith, MD*
*o BMP*
*Raymond J. Hah, MD*

12:30-1:30 p.m. Lunch

**Interbody cage surface technologies**

1:30-1:45 p.m. PEEK – Porous  
*Vertera*
*Kenneth A. Gall, PhD*

1:45-2:00 p.m. Titanium  
*Wellington K. Hsu, MD*

2:00-2:15 p.m. Silicon Nitride/Ceramic  
*Scott D. Daffner, MD*
Case Debates

2:15-2:30 p.m.  1-level ALIF
   o  PEEK
      *Alan Dang, MD*
   o  Titanium
      *Wellington K. Hsu, MD*

On the Horizon

2:30-2:45 p.m.  How 3D printing is shaping spine surgery
                   *Wellington K. Hsu, MD*

2:45-3:00 p.m.  Scaffolds for fibrous musculoskeletal tissues
                   *Harvey E. Smith, MD*

3:00-3:15 p.m.  Potential impact of infection-control from biologic products
                   *Clinton J. Devin, MD*

3:15-3:30 p.m.  Regulatory Challenges in Biologics
                   *Raymond Golish, MD, PhD*

3:30-3:45 p.m.  Discussion