



**2025 Philadelphia Spine Research Society (PSRS) Symposium**  
**Friday, November 7<sup>th</sup>, 2025**  
**At the University of Delaware**

FinTech Innovation Hub, Conference Center - 501  
591 Collaboration Way, Newark, DE 19713

<b>8:00am – 9:00am</b>	<b>Registration, Breakfast and Poster Setup</b>
<b>9:00 – 9:50am</b>	<b>Session 1: Celebrating 20 Years of PSRS</b> Introduction of Keynote Speaker – <i>Thomas Schaer, VMD</i> Keynote – <i>Edward Vresilovic, MD</i>
<b>9:50 – 10:10am</b>	<b>Break</b>
<b>10:10am – 12:00 pm</b>	<b>Session 2: Crosstalk and Pain</b> Moderators: Jill Middendorf, PhD, Yejia Zhang, MD, PhD  <b>Keynote</b> - 20 min + 10 min discussion “Crosstalk in the Spine: Integrating Pain Generators” <i>Quinn Tate, MD</i>  <b>Short Talks</b> - 8 min + 2 min discussion each  Failed lumbar fusion leads to increased markers of accelerated biologic aging <i>Yasmine K. Eichbaum</i>  CD14 Deficiency in Mice Protects Against Age-associated Mobility Loss, Pain, and Multi-joint Degeneration <i>Kevin G. Burt</i>  MRI of Intervertebral Disc and Ultrasound Imaging of Multifidi in Participants with Nonspecific Low Back Pain <i>Mackenzie Conner</i>  Lumbar Intervertebral Disc Injury Induces Pain-Like Behaviors And Disability In A Mouse Discogenic Pain Model <i>Neharika Bhadouria</i>  Adults with Lower Limb Amputation and Comorbid Low Back Pain: reduced amputated-side multifidi activity is associated with worse mobility <i>Claire E. Vallery</i>
<b>12:00pm – 2pm</b>	<b>Lunch &amp; Poster Session</b> 12:30pm - 1:15pm – Odd Posters 1:15pm – 2:00pm - Even posters
<b>2:00-3:30pm</b>	<b>Session 3: Mechanisms of Spinal Degeneration</b> Moderators: Axel Moore, PhD; Harrah Newman, PhD

**Keynote** - 20 min + 10 min discussion

“Aging in intervertebral disc degeneration and myeloid-derived cell recruitment”

*Nilsson Holgiun, PhD*

**Short Talks** - 8 min + 2 min discussion each

Effects of Hormonal Replacement on Menopause-induced Intervertebral Disc Degeneration

*Julia Bezerra Martins Chagas*

Systemic Monocyte Depletion Attenuates Injury-Induced Intervertebral Disc Degeneration

*MinKyu Mark Kim*

Exploring the Durability of Repeated Lumbar Microdiscectomy: A TriNetX 5-Year Multicenter Outcomes Analysis

*Henry Morar*

Achondroplasia causing FGFR3 gain-of-function mutation disrupts intervertebral disc development and growth

*Sarah E. Bell*

Cellular Uptake and Nuclear Localization of Biomimetic Proteoglycans

*Annika Bergstrom*

**3:30 – 3:50 pm**

**Break**

**3:50pm – 5:20 pm**

**Session 4: Bench to Bedside – Translational Spine Research**

Moderators: Eric Brewer, PhD; Emily Sharp, BS

**Keynote** - 20 min + 10 min discussion

“Tissue engineered approaches to pathology of the intervertebral disc”

*Harvey E. Smith, MD*

**Short Talks** - 8 min + 2 min discussion each

Anterior Vertebral Body Tethering Outcome Prediction with Patient-Specific Finite Element Models: preliminary retrospective validation with 20 AIS patients

*Christian D'Andrea*

Effects of HIF Prolyl Hydroxylase Inhibition on Extracellular Matrix Production by Nucleus Pulposus Cells

*Ben Jiahe Gu*

Applications of ZNF865 CRISPR-activation to Improve Bioactivity and Bioavailability of Biopharmaceuticals for use in orthopaedic applications

*Hunter Levis*

IL-1beta Does Not Exacerbate Cell Death in a Large-Scale Tissue-Engineered Intervertebral Disc

*Matthew Fainor*

Evaluating the Mechanism of Action of an Injectable Intervertebral Disc Augmentation Device

*Antonio Abbondandolo*

**5:20 – 5:30pm**

**Closing Remarks**

Sarah Gullbrand, PhD

**5:30 – 7:00pm**

**Awards, Reception & Poster Viewing**