

ORS PSRS 8th International Spine Research Symposium

Skytop Lodge, Pennsylvania

Sunday, November 1 – Thursday, November 5, 2026

Agenda

Sunday, November 1, 2026

2:00 PM – 5:30 PM	**Arrival and Check-in**	**Evergreen Ballroom**

5:30 PM – 7:00 PM	**Dinner**	**West Windsor Dining Room**

7:00 PM – 7:10 PM	**Welcome & Introductory Comments by Co-Chairs** James Iatridis, *Icahn School of Medicine at Mount Sinai, USA* Sarah Gullbrand, *University of Pennsylvania, USA*	**Evergreen Ballroom**
7:10 PM – 7:30 PM	**BMRC Travel Award Presentation** Joon Lee, *University of Pittsburgh, USA*	

7:30 PM – 9:10 PM	**Topic: Epidemiology and Mechanisms of Back Pain** Discussion Leaders: Nadeen Chahine, *Columbia University, USA* James Iatridis, *Icahn School of Medicine at Mount Sinai, USA*	**Evergreen Ballroom**
7:30 PM – 7:35 PM	**Discussion Leader Lightning Talk by:** Nadeen Chahine and James Iatridis	
7:35 PM – 8:00 PM	**Social determinants of spine disease and low back pain** John Martin, *Rush University, USA*	
8:00 PM – 8:30 PM	**BACPAC 1: Multi-modal phenotyping for chronic low back pain: Updates from the Pitt BACPAC and INTERACT Center** Gwendolyn Sowa & Nam Vo, *University of Pittsburgh, USA*	
8:30 PM – 8:55 PM	**BACPAC 2: TBD** Jeannie Bailey & Aaron Fields, *University of California San Francisco, USA*	
8:55 PM – 9:10 PM	**Panel Discussion**	

9:10 PM – 10:00 PM	**Welcome Reception**	**Hemlock Ballroom**

10:00 PM	**Campfire with s'mores**

Monday, November 2, 2026

7:30 AM – 8:30 AM	**Breakfast**	**West Windsor Dining Room**

8:30 AM – 10:10 AM	**Topic: Pathobiology of Disc Degeneration** Discussion Leaders: Cheryle Séguin, *The University of Western Ontario, Canada* Simon Tang, *Washington University in Saint Louis, USA*	**Evergreen Ballroom**
8:30 AM – 8:40 AM	**Discussion Leader Lightning Talk by:** Cheryle Séguin and Simon Tang	
8:40 AM – 9:10 AM	**Exploring mechanisms of disc aging and disease** Hicham Drissi, *Emory University, USA*	
9:10 AM – 9:40 AM	**Epigenetic Regulation of Disc Aging: Sirtuin 6 as a Regulator of Senescence in Intervertebral Disc Degeneration** Makarand Risbud, *Thomas Jefferson University, USA*	
9:40 AM – 10:10 AM	**Short Talk Podium Presentations** (10 minutes each) **Col1a2 Mutation in an Aging Mouse Model of Osteogenesis Imperfecta Accelerates IVD Degeneration** Nina (Shirley) Tang, *Washington University in Saint Louis, USA* **Germline Genetic Variant analysis in a Chronic Low Back Pain Population** Harsha Nagar, *University of Pittsburgh, USA* **Degeneration-Associated Reduction in EP4 Expression and Signaling in Human Cartilage Endplate Cells** Laura Blanco, *University of Bern, Switzerland*	

10:10 AM – 10:30 AM	**Break**

10:30 AM – 12:10 PM	**Topic: Crosstalk within the Spine** Discussion Leaders: Stefan Dudli, *University of Zurich, Switzerland* Svenja Illien-Junger, *Emory University, USA*	**Evergreen Ballroom**
10:30 AM – 10:40 AM	**Discussion Leader Lightning Talk by:** Stefan Dudli and Svenja Illien-Junger	
10:40 AM – 11:10 AM	**Tissue Crosstalk and Cellular Senescence: Drivers of Spinal Aging and Degeneration** Lisbet Haglund, *McGill University, Canada*	
11:10 AM – 11:40 AM	**Local and Systemic Effects of Exercise in a Rabbit Model of Disc Degeneration** Sarah Gullbrand, *University of Pennsylvania, USA*	
11:40 AM – 12:10 PM	**Short Talk Podium Presentations** (10 minutes each) **ENPP1 loss Drives Intervertebral Disc Calcification, Vascular-Lymphatic-Immune Axis Dysfunction and Vertebral Osteopenia** Sanjana Jagannath, *Thomas Jefferson University, USA*	

	The disc microbiome and host epigenetics: Acinetobacter links bacterial presence to DNA methylation in disc cells Andrea Nüesch, *University of Zurich, Switzerland* **TRPV1 Mediates Multi-tissue Crosstalk in Discogenic Pain and Represents a Potential Therapeutic Target** Neharika Bhadouria, *Icahn School of Medicine at Mount Sinai, USA*

12:10 PM – 1:00 PM	**Lunch**	**West Windsor Dining Room**

1:00 PM – 4:00 PM	**Free Time** TBD Activities

3:00 PM – 4:00 PM	**Optional Scientific Program**	
	Animal Models and NAMs Discussion Group	

4:00 PM – 5:30 PM	**Odd Number Poster Viewing**

5:30 PM – 6:30 PM	**Dinner**	**West Windsor Dining Room**

6:40 PM – 7:10 PM	**PSRS Lifetime Achievement Award Presentation and Lecture**	**Evergreen Ballroom**

7:10 PM – 8:50PM	**Topic: Diagnostics, Imaging & Rising Stars in Clinical/Translational Research** Discussion Leaders: Ashish Diwan, *Adelaide University, Australia* Zori Buser, *Cerapedics Inc., USA*	**Evergreen Ballroom**
7:10 PM – 7:20 PM	**Discussion Leader Lightning Talk by:** Ashish Diwan and Zori Buser	
7:20 PM – 7:50 PM	**Decoding the Osmotic Microenvironment of the Healthy & Degenerated Intervertebral Disc** Benjamin Walter, *The Ohio State University, USA*	
7:50 PM – 8:20 PM	**Rising Stars in Clinical/Translational Research** (10 minutes each) **Am I just getting old? Enhancing early diagnosis of degenerative cervical myelopathy** Grace Xiong, *Stanford University, USA* **T1 slope: The Foundation of Cervical Alignment** Yunsoo Lee, *Icahn School of Medicine at Mount Sinai, USA* **Metabolism Meets Spine Surgery: GLP-1 Receptor Agonists, Infection, and Bone Healing?** William Sheppard, *UCLA/Harbor-UCLA Orthopedics, USA*	
8:20 PM – 8:50 PM	**Short Talk Podium Presentations** (10 minutes each)	

	Lumbar disc glucose metabolism is associated with lumbar spine pathology burden: A retrospective MRI-PET study Mattia Perrone, *Rush University Medical Center, USA* **Accelerated Multifidus Muscle Aging in Chronic Low Back Pain Patients: A Longitudinal MRI Analysis** Alexis Camacho, *University of California San Francisco, USA* **The Relationship Between Paraspinal Muscles and Intervertebral Discs Differs with Low Back Pain** Dawn Elliott, *University of Delaware, USA*

9:00 PM – 10:00 PM	**Networking Reception**	**Hemlock Ballroom**

Tuesday, November 3, 2026

7:30 AM – 8:30 AM	**Breakfast**	**West Windsor Dining Room**

8:30 AM – 10:10 AM	**Topic: Molecular, Cell and Developmental Biology of the Disc** Discussion Leaders: Blake Montgomery, *Children's Hospital of Philadelphia, USA* Nilsson Holguin, *Icahn School of Medicine at Mount Sinai, USA*	**Evergreen Ballroom**
8:30 AM – 8:40 AM	**Discussion Leader Lightning Talk by:** Blake Montgomery and Nilsson Holguin	
8:40 AM – 9:10 AM	**Towards generation of a spatial multiomic atlas of human intervertebral disc development** Stephen Richardson, *The University of Manchester, UK*	
9:10 AM – 9:40 AM	**'Fishing' for the biological origins of adolescent idiopathic scoliosis** Brian Ciruna, *The Hospital for Sick Children & University of Toronto, Canada*	
9:40 AM – 10:10 AM	**Short Talk Podium Presentations** (10 minutes each) **Spatiotemporal Identification and Functional Role of CHRDL2+ Cells in Human Intervertebral Disc Development** Wanting Yan, *The University of Manchester, UK* **COL11A1 Loss Triggers Inflammatory/Nitrosative Stress Pathways in Spinal Cartilage** Tugba Mehmetoglu Gurbuz, *Scottish Rite for Children, USA* **Recapitulating IVD Development to Generate Aggrecan-producing Nucleus Pulposus-like Cells for Disc Regeneration** Tynhinane Hamidouche, *Cedars-Sinai Health Sciences University, USA*	

10:10 AM – 10:30 AM	**Break**

10:30 AM – 12:00 PM	**Topic: Systemic Crosstalk and Pain** Discussion Leaders: Laura Stone, *University of Minnesota, USA* Dmitriy Sheyn, *Cedars-Sinai Health Sciences University, USA*	**Evergreen Ballroom**
10:30 AM – 10:40 AM	**Discussion Leader Lightning Talk by:** Laura Stone and Dmitriy Sheyn	

10:40 AM – 11:10 AM	**What Tracks with Pain and What Doesn't: Using Systemic Correlates to Redefine Mechanistic Targets in Low Back Pain** Rebecca Wachs, *Arizona State University, USA*	
11:10 AM – 11:40 AM	**Spinal Tissue Crosstalk in Pathology and Treatment of Discogenic Pain** James Iatridis, *Icahn School of Medicine at Mount Sinai, USA*	
11:40 AM – 12:10 PM	**Short Talk Podium Presentations** (10 minutes each) **Aging-Dependent Remodeling of Prefrontal Cortical Neuronal Activity and Circuits in Chronic Pain: From Single-Nucleus Transcriptomics to Projection-Specific Brain Mapping** Shuhei Iwata, *University of Minnesota, USA* **Modulating the Development of Rodent Discogenic Low Back Pain Using Chondroitin Sulfate Microparticles** Evie Reddick, *Arizona State University, USA* **Type 2 Diabetes Amplifies Injury-Induced Neurovascular Remodeling Involving VEGF and Alternative Pathways in the Intervertebral Disc** Christian Gonzalez, *Washington University in St Louis, USA*	
12:10 PM – 1:00 PM	**Lunch**	**West Windsor Dining Room**

1:00 PM – 4:00 PM	**Free Time**
	TBD Activities

1:00 PM – 3:00 PM	**Optional Scientific Program**	**Evergreen Ballroom**
	Workshop: Meet the NIH Program Officers TBD NIH Program Officers	

4:00 PM – 4:45 PM	**Odd Number Poster Viewing**	**Hemlock Ballroom**
4:45 PM – 5:30 PM	**Even Number Poster Viewing**	

5:30 PM – 6:45 PM	**Dinner**	**West Windsor Dining Room**

7:00 PM – 8:50 PM	**Topic: Spine Biomechanics and Mechanobiology** Discussion Leaders: Robert Mauck*, University of Pennsylvania, USA* Jill Middendorf*, Johns Hopkins University, USA*	**Evergreen Ballroom**
7:00 PM – 7:10 PM	**Discussion Leader Lightning Talk by:** Robert Mauck and Jill Middendorf	
7:10 PM – 7:40 PM	**Transcriptional and Mechanical Signatures of Aging in the Intervertebral Disc** Nadeen Chahine, *Columbia University, USA*	
7:40 PM – 8:10 PM	**Recent Advances in Computational Modeling for Pediatric Spine Deformity Diagnosis and Treatment** Sri Balasubramanian, *Drexel University, USA*	
8:10 PM – 8:40 PM	**Short Talk Podium Presentations** (10 minutes each)	

	Scoliosis Induction in the Juvenile Porcine Spine Using a Growth-Modulating Posterior Tether: Finite Element Model Development and Calibration Christian D'Andrea, *University of Texas at Austin, USA* **Effect of Dynamic Compressive Loading on Nucleus Pulposus Regeneration in Biomimetic Hydrogel** Ashish Kumar, *University of Bern, Switzerland* **Modeling Physicochemically Relevant Nucleus Pulposus using Explants and Isolated Cells** Kunihiko Miyazaki, *Brigham and Women's Hospital, Mass General Brigham and Harvard Medical School, USA*

8:40 PM – 10:00 PM	**Networking Reception**	**Hemlock Ballroom**

Wednesday, November 4, 2026

7:30 AM – 8:30 AM	**Breakfast**	**West Windsor Dining Room**

8:30 AM – 10:00 AM	**Topic: Insights from the Next Generation – Rising Stars in Spine Research** Discussion Leaders: Karin Weurtz-Kozak, *Rochester Institute of Technology*, USA Dawn Elliott, *University of Delaware, USA*	**Evergreen Ballroom**
8:30 AM – 8:40 AM	**Discussion Leader Lightning Talk by:** Karin Weurtz-Kozak and Dawn Elliott	
8:40 AM – 10:00 AM	**Short Talk Podium Presentations** (10 minutes each) – *These podium presentations were selected from top-scoring graduate student and postdoc abstracts during review*. **Disease-Associated Macrophage Enrichment in Paraspinal Fat and Age-Associated Remodeling of the Facet Synovial Plica** Kevin Burt, *University of Pennsylvania, USA* **Endplate-Derived Netrin-1/DCC Signaling Drives Central Amplification of Chronic Low Back Pain** Dayu Pan, *Johns Hopkins School of Medicine, USA* **High-fat diet alters lipid metabolism in the mouse intervertebral disc and leads to degenerative changes** Joe Kodama, *University of Maryland, USA* **Characterization of PRG4 in the developing mouse spine and in injury-induced intervertebral disc degeneration** Chenfan (Christina) Ji, *Western University, Canada* **Development of a Chronic Implant to Longitudinally Assess Intervertebral Disc Microstructure using Intravital Multiphoton Imaging** Brian Wise, *University of Rochester, USA*	

	Investigating immune cell changes in adult rat dorsal root ganglia and intervertebral disc after injury at acute and chronic timepoints Benjamin Gane*, Arizona State University, USA* **Early Activation of RhoA Protects from ECM Loss in Injury-Induced Intervertebral Disc Degeneration** Gabriella Bond, *Columbia University, USA* **Age Dependent Effects of FOXF1 Loaded Extracellular Vesicle Treatment in an in vivo Chondrodystrophic Canine Model of Intervertebral Disc** Khady Diop, *The Ohio State University, USA*

10:00 AM – 10:20 AM	**Break**

10:20 AM – 12:10 PM	**Topic: Advances in Translational Research: Models, Tissue Engineering, Biomaterials** Discussion Leaders: Josh Li, *University of Virginia, USA* Gabriella Graziana, *Università Telematica San Raffaele, Italy*	**Evergreen Ballroom**
10:20 AM – 10:30 AM	**Discussion Leader Lightning Talk by:** Josh Li and Gabriella Graziana	
10:30 AM – 11:00 AM	**Injectable ECM Biomaterials and miRNA Delivery Strategies for Intervertebral Disc Regeneration** Conor Buckley, *Trinity College Dublin, Ireland*	
11:00 AM – 11:30 AM	**One Column, Many Joints: The Problem of Mimicking, Preserving, or Fusing the Spine** Ben Gantenbein, *University of Bern, Switzerland*	
11:30 AM – 12:10 PM	**Short Talk Podium Presentations** (10 minutes each) **Biomimetic Proteoglycan Intracellular Entry Promotes Cytoprotective Gene Regulation and Matrix Precursor Metabolism in Chondrocytes** Annika Bergstrom, *Villanova University, USA* **Hydrogel-Mediated Repair and Hedgehog Pathway Modulation as a Combined Strategy Following Disc Herniation** Emily Sharp, *University of Pennsylvania, USA* **TRPC6 Inhibition as a Therapeutic Strategy for Discogenic Back Pain** Janitri Venkatachala Babu, *Rochester Institute of Technology, USA* **Impact of the Degenerate Nucleus Pulposus Biochemical Microenvironment on the Performance of mRNA Lipid Nanoparticles** Keerthana Iyer, *University of Pennsylvania, USA*	

12:10 – 12:20 PM	**Group Photo**	**Outside Steps**

12:20 PM – 1:20 PM	**Lunch**	**West Windsor Dining Room**

1:20 PM – 4:00 PM	**Free Time**	**South Lawn**

	TBD Activities

4:00 PM – 5:30 PM	**Even Number Poster Viewing**	**Hemlock Ballroom**

5:30 PM – 6:45 PM	**Dinner**	**West Windsor Dining Room**

7:00 PM – 8:10 PM	**Topic: Advances in Translational Research: Cell and Gene Therapy** Discussion Leaders: Devina Purmessur, *The Ohio State University, USA* Lachlan Smith, *University of Pennsylvania, USA*	**Evergreen Ballroom**
7:00 PM – 7:10 PM	**Discussion Leader Lightning Talk by:** Devina Purmessur and Lachlan Smith	
7:10 PM – 7:40 PM	**Developing injectable biomaterials for functional IVD restoration: translating research from academic to industry** Christine Le Maitre, *University of Sheffield, UK*	
7:40 PM – 8:10 PM	**Into the "Unknome": CRISPR Discovery and Regulation of Novel Genes for Aging and Spine Therapeutics** Robby Bowles, *University of Utah, USA*	

8:10 PM – 8:30 PM	**ORS PSRS Awards Ceremony and Closing Remarks**	**Evergreen Ballroom**

8:30 PM – 10:00 PM	**Trivia Night** Hosts TBD	**Evergreen Ballroom**

Thursday, November 5, 2026

8:00 AM – 10:00 AM	**Breakfast**	**West Windsor Dining Room**

11:00 AM	**Check-out**

Thank You to Our Sponsors



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