

Grant Winners for 2008

Young Investigator: Intervertebral Disc Regeneration from Co-cultures Disc and Stem Cells in Biomimetic Engineered Extracellular Matrix Stimulated by Mechanically Active Bioreactor

Wan-Ju Li, PhD; Paul Anderson, MD

Young Investigator: Novel Scaffold Using Human Adipose-derived Stromal Cells

Francis H. Shen, MD

Defining the Abnormal Kinematics of Lumbar Spine Instability as a Cause of Degenerative Low Back Pain-A Biomechanical Study of the Kinematics of Cadaver Lumbar Spine

Dilip K. Sengupta, MD

Grant Winners for 2007

Young Investigator: Percutaneous Gene-Delivery Mediated Intervertebral Body Fusion
Matthew E. Cunningham, MD, PhD; Oheneba Boachie-Adjei, MD

In-vivo Spine Biomechanics: Application of an Innovative Combined MR and Dual Fluoroscopic Imaging Technique

Kirkham B. Wood, MD; Guoan Li, PhD

Biological Repair of Intervertebral Disc Degeneration

Fackson Mwale, PhD; John Antoniou, MD, PhD; Peter Roughley

Proinflammatory Cytokine Profile of Intervertebral Disc Tissues from Patients with Discogenic Axial Back Pain Confirmed by Discography

Yeji Zhang, MD, PhD; D. Greg Anderson, MD

Grant Winners for 2006

Cell Senescence and the Human Intervertebral Disc

Helen E. Gruber, PhD; Edward N. Hanley, Jr., MD; H. James Norton, PhD

Local Delivery of Small Inhibitory RNA (siRNA) and Radiation Therapy to Treat Metastatic Spine Tumors

Daniel M. Sciubba, MD; Ziya Gokaslan, MD, FACS; Theodore L. DeWeese, MD

The Regulation of Gene Expression by Compressive Stress in the Nucleus Pulposus
Gwendolyn Sowa, MD, PhD; James Kang, MD; Patrick Smolinski, PhD

The Minimal Clinically Important Difference (MCID) for Spinal Disorders: Finding the Threshold of Clinically Significant Change
Vedat Deviren, MD; Sigurd Berven, MD

Grant Winners for 2005

Autologous Mesenchymal Stem Cell Injection for Treatment of Intervertebral Disc Degeneration

James D. Kang, MD; Lars Gilbertson, PhD; Gianluca Vadala, MD; James W. Larson III, MD

C Fiber and Type II A-S Fiber Neurons Mediate Neuropathic Pain

Jian-Guo Cui, MD, PhD; Gabriel Tender

Grant Winners for 2004

Developmental Therapeutic for Disc Abnormalities in a Mouse Model

Xudong Li, MD, PhD; Frank Shen, MD; Gary Balian, PhD

Prospective Cohort Study of the COMT val 158 met Genotype and Outcome from Surgery for Degenerative Disc Disease

David H. Kim, MD; Louis G. Jenis, MD; Robert J. Banco, MD; Mitchell Max, PhD

Effects of Spine Surgery on Paraspinal Musculature

Richard G. Fessler, MD, PhD; Frederick D. Brown, MD; Edward D. Wirth, MD, PhD

Grants Winners for 2003

The role of the p75 Neurotrophin Receptor in the Death of Neurons and Glia after Spinal Cord Injury

Michael G. Fehlings, MD, PhD, FRCSC

Fatty Acid Mediated Transfection of Potentially Therapeutic Genes in Human Intervertebral Disc Chondrocytes

Paul A. Anderson, MD; Ronjon Paul, MD; Wilmot Valhmu, PhD; Thomas A. Zdeblick, MD

Tumor/stromal Interactions in a Bone Marrow Precursor Derived Bone Model of Metastatic Spinal Disease

James M. Schuster, MD, PhD

Grant Winners for 2002

Early vs. Later Decompression of Cervical Spinal Cord Injuries with Spinal Cord Compression

John B. Sledge III, MD; David G. Anderson, MD; Michael G. Fehlings, MD, PhD, FRCSC; Alexander R. Vaccaro, MD

SOX9-Mediated Gene Therapy in a Degenerative Disc Model

Frank M. Phillips, MD; Rex C. Haydon, MD, PhD

BMP-Transduced Mesenchymal Stem Cells for Spine Fusion

Tong-Chuan He, MD, PhD; Rex C. Haydon, MD, PhD; Frank M. Phillips, MD

Grant Winners for 2001

Integrin Medicated Mechanotransduction of Cyclic Hydrostatic Pressure in Rabbit Intervertebral Disc Cells Cultured In Vitro

Albert JM Yee, MD, MSc, FRCSC(C)

Deformation Characteristics of the Vertebral Pedicle During Pedicle Screw Insertion: Characteristics of Deformation During Insertion of Tapered and Cylindrical Screws

Robert F. McLain, MD; Brian K. Bay, PhD; Lisa A. Ferrara, MS; Edward C. Benzel, MD

Localized Trabecular Damage Adjacent to Interbody Fusion Devices and Its Effect on Construct Stability

Dwight T. Davy, PhD; Karen E. Warden, PhD Candidate

Grant Winners for 2000

Human Intervertebral Disc Cell Attachment, Proliferation and Matrix Production In Vitro: Experimental Studies with Selected Cell Carriers for Tissue Engineering

Helen E. Gruber, PhD; Edward N. Hanley, Jr., MD

Intratransverse Process Arthrodesis: Efficacy of DC Stimulation in Nicotine Exposure Model

John C. France, MD; Timothy L. Norman, PhD

The Effect of Anterior Wedge Fracture and Subsequent Augmentation on the Mechanical Stability of the Osteopenic Thoraco-Lumbar Spine

Ron N. Alkalay, PhD; Brian D. Snyder, MD, PhD

Grant Winners for 1999

Gene Gun-Mediated Gene Transfer of Osteogenic Protein-1 (OP-1) to Promote Regeneration on the Intervertebral Disc in Rabbits

Howard S. An, MD; Steven C. Chang, MD; Koichi Masuda, MD; Gunnar BJ Andersson, MD, PhD; Eugene J-MA Thonar, PhD

Biochemical Effects of Laminoplasty, Laminectomy and Discectomy: Stenosis and Stability

Neil R. Crawford, PhD; Nicholas Theodore, MS, MD; Volker KH Sonntag, MD; Curtis A. Dickman, MD

Tissue Engineering for the Intervertebral Disc: Research with the Sand Rat Model

Helen E. Gruber, PhD; Edward N. Hanley, Jr., MD

The Effects of Doxorubicin on Spinal Fusion: An Animal Model

Joseph M. Kowalski, DC, MD; John G. Heller, MD; Hideki Murakami, MD; Steven C. Ludwig, MD; Tim Yoon, MD, PhD

Grant Winners for 1998

The Effect of Regional Gene Therapy with Bone Morphogenetic Protein-2 Producing Bone Marrow Cells on Spinal Fusion in Rats

Jeffrey C. Wang, MD; Jay R. Lieberman, MD

Stimulated Autologous Macrophages in Spinal Cord Injury

Volker KH Sonntag, MD; Frederick F. Marciano, MD, PhD; Nicholas Theodore, MD, MS; Sam P. Javedan, MD

In Vitro Models for Intervertebral Disc Tissue Engineering

Richard M. Ozuna, MD; Myron Spector, PhD; Sonya Shortkroff, MS; Dawn M. Hastreiter, SM

The Natural History of Spondylolysis and Spondylolisthesis: Age 5 to Late 40's

Bruce E. Fredrickson, MD; Albert M. Murtland, MD; D. Baker; C. Sweeney; WJ Beutler, MD, FACS

Cyclic Failure of Multi-Segmental Pedicle Screw Systems

Scott A. Yerby, PhD; Eugene J. Carragee, MD; J. Sun; D. Kim; DR Carter

Grant Winners for 1997

Molecular and Cellular Effects of Nicotine on Posterior Lumbar Spine Fusion

Michael A. Morone, MD, PhD; Scott D. Boden, MD; Edward C. Benzel, MD

Five Year Outcomes of Lumbar Spinal Stenosis Surgery

Jeffrey N. Katz, MD, MS; Steven J. Lipson, MD; Leon Grobler, MD; ME Husni, MD; AH Fossel; Gregory W. Brick, MD

Anti-Apoptotic Effects of IGF-I and PDGF on Human Intervertebral Disc Cells In Vitro

Helen E. Gruber, PhD; Edward N. Hanley, Jr., MD; HJ Norton, PhD

Real Time In Vivo Loading in the Baboon Lumbar Spine Using an Interbody Implant Load Cell

Barton L. Sachs, MD; John B. Brunski, PhD; Eric H. Ledet, MS; Charles E. Gatto, MD

Grant Winners for 1996

Gene Expression During Posterolateral Lumbar Spine Fusion: Effect of BMP-2

Scott D. Boden, MD; Michael A. Morone, MD, PhD; G Martin, MD; G Hair, PhD; M Racine

Spine Fusions with Tissue Engineered Scaffolds

Kenneth J. Kopacz, MD; Ken S. James, PhD; Joachim B. Kohn, PhD; JR Parsons, PhD

Enhancement of Drug Delivery by Hypertonic Saline Solution Following Spinal Cord Injury

William F. Young, MD; Ronald F. Tuma, PhD; Usha S. Vasthare, PhD

Localization, Reproducibility and Dosimetry for Spinal Radiosurgery

Antonio AF De Salles, MD, PhD ; Timothy D. Solberg, PhD ; Paul M. Medin, MS

Grant Winners for 1995

The Role of Cultured Schwann Cell Grafts in the Repair of Gaps Within the Peripheral Nervous System of Primates

Allan D. Levi, MD, PhD, FRCS(C); Michael E. Berens, PhD; Curtis A. Dickman, MD ; Volker KH Sonntag, MD; JP Mather, PhD; RH Li, PhD; S Cordova; B Bichard

Relationship Between Pain and Vertebral Motion: A Neural Net Analysis

Drew A. Bednar, MD, FRCS, FAAOS; James Dickey, MSc; Michael R. Pierrynowski, PhD; Victoria Galea, PhD; SX Yang

Does Sagittal Pedicle Screw Insertion Angle Influence Axial Compressive Strength of the Construct?

Peter M. Stutz, MD; Steven R. Garfin, MD; Jennifer B. Massie, MS; Vijay J. Goel, PhD; Christopher M. Bono, MD; P Yuan; JD Clausen; T Selz; JL Scifert

Grant Winners for 1994

Effects of Intradiscal Proliferant Solutions on Fibroplasia Growth

Vert Mooney, MD; Jennifer B. Massie, MS ; Steven R. Garfin, MD ; CS Yu

Combined Spinal Surgery and Tertiary Rehabilitation: A Prospective Evaluation Study of Treatment Efficacy

Tom G. Mayer, MD; Robert J. Gatchel, PhD; P McMahon, BA; B Sparks, MA; P Pegues, RN

Grant Winners for 1993

Astrocyte Response and Transforming Growth Factor-B Localization in Acute Spinal Cord Injury

Michael E. Joyce, MD; Michael F. O'Brien, MD ; Lawrence G. Lenke, MD ; Keith H. Bridwell, MD; J Lou

Lumbar Spinal Instability: A Correlation Between Biomechanical, MRI and Anatomic Properties of the Motion Segment

Howard S. An, MD; Tae-Hong Lim, PhD; Victor M. Haughton, MD; Bruce H. Nowicki, BS; JH Hong; L You; H Yoshida

The Effect of Surgical Removal and Storage on the Hydration and Material Properties of the Intervertebral Disc

Jeffrey C. Lotz, PhD

Grant Winners for 1992

Monitoring of Motor Tracts with Spinal Cord Stimulation

Siavash S. Haghighi, DVM, PhD; John J. Oro, MD; Robert W. Gaines, MD; Donald H. York, PhD

Biomechanical, Functional and Subjective Comparisons Between Halo Vests

Martin H. Krag, MD

Spinal Stenosis Research Grant

Stephen I Esses, MD/Committee on Scientific Research

Grant Winners for 1991

Determination of the Ideal Strain for Lumbar Fusions: Biomechanical Validation of a Finite Element Model of the Sheep Spine

Bruce E. Fredrickson, MD; WT Edwards, MD; Lisa A. Ferrara, MA; CY Zhang; M Itoh; Hansen A. Yuan, MD

Grant Winners for 1990

Vertebral Osteophytes: An Experimental Animal Model

Casey K. Lee, MD; Monica Vuono-Hawkins; Noshir A. Langrana, PhD; MC Zimmerman; JR Parsons

Grant Winners for 1989

Biomechanical Assessment of Segmental Pedicle Screw Fixation of the Spine

John P. Kostuik, MD

Reactive Research Facility

James N. Weinstein, DO, MS