



Jacob Januszewski, DO

Minimally Invasive
Complex Spine Deformity
& Neurosurgery

Curriculum Vitae

Education:

- January 2018-Present: The Back Center, Melbourne, FL. Neurosurgeon
- November-December 2017: Academic Sabbatical and Job Relocation.
- June 2017-October 31, 2017: Orlando Neurosurgery, Attending Neurosurgeon
- July 2016-June 2017: MIS Complex Spine Deformity Fellowship with Juan Uribe at the University of South Florida
- July 2010-June 2016: Neurosurgery Residency, Hofstra North Shore – LIJ University Hospital at Northwell Health, Manhasset, New York.
- July 2006- May 2010: DO, Michigan State University College of Osteopathic Medicine, East Lansing, Michigan
- September 2001- June 2005: BA, Biology, Kalamazoo College, Kalamazoo, Michigan
- 1997-2001: HS Diploma, Valedictorian. Hamtramck High School, Hamtramck, Michigan

Licensure and Certification:

- November 13, 2017: AOBS Board Certified
- March 13, 2017: Florida Medical License, expiration 3/31/2018
- January 10, 2016: NYS Medical License, expiration January 2018
- July 2016 - June 2016: Florida training license

Professional Experience:

- June 2017-Present: Attending Neurosurgeon in MIS Spine Deformity and General Neurosurgery at Orlando Neurosurgery, Orlando FL.

Professional Activities:

Journal Review

October 2016-Present: Ad Hoc Reviewer for *SPINE*

Editor/Editorial Board

October 2016 - Present: Associate Editor for the Journal of Spinal Studies and Surgery

Grant Funding:

2004: Recipient of Howard Hughes Medical Institute (HHMI) Research Grant

2002: Recipient of a McGregor Summer Research Fellowship

Research:

July 2016-July 2017: Clinical research in spinal deformity and spine biomechanics with Juan Uribe

January 2014-2015: Research Assistant at the North Shore-LIJ Feinstein Institute for Medical Research, Center for Oncology and Cell Biology. Assisting Dr. Marc Symons with tumor angiogenesis and response to new pharmacological agents and radiation. Investigating role of steroids in vasogenic edema and response on radiation.

April 2007- March 2008: Research Assistant at Michigan State University, Department of Pharmacology and Toxicology. Assisted Dr. Colleen Cosgrove Hegg in developing an in vitro model that would help to classify the subtypes of purinergic receptors involved in protective endogenous release of ATP, thought to occur in response to olfactory epithelial injury

September 26, 2005 - March 15, 2006:

Research Assistant at Wayne State University Medical School, Physiology Department. Assisted Steven DiCarlo with research on the cardiovascular system: studying arrhythmia development due to hormonal imbalances and the effects of ischemia on myocyte receptor proteins; studying cardioprotective roles of electrical stimulation of the median nerve - establishing scientific bases of acupuncture.

- 2001-2005: Research assistant in cellular biology laboratory at Kalamazoo College. Investigating TACE (TNF alpha converting enzyme) as an alpha secretase in APP cleavage and the amino acid residues involved in the PKC-mediated activation and regulation of TACE activity; investigating iNOS activation on the levels of sAPP-alpha and sAPP-beta production; modelling ethanol neurotoxicity in vitro and attempting to uncover the molecular signalling pathways leading to caspase activation and apoptotic cell death of neurons grown in culture, including inhibition of TACE activity.
- July-August 2000: Research apprenticeship at Wayne State University Department of Environmental Toxicology. Investigation of TNF-alpha and anti-Fas antibody induced apoptosis in normal prostate and preneoplastic human cells.

Publications:

Book Chapters

1. Essentials of Spinal Stabilization. "The minimally invasive retroperitoneal transpsoas approach." **Jacob Januszewski** and Juan S. Uribe. 1st Edition. Springer. Verlag New York. 2016 (submitted – in print)
2. Gray's Surgical Anatomy. "Lumbosacral plexus and innervation of the lower limb." Andrew Vivas, **Jacob Januszewski**, Juan Uribe. 1st Edition. Elsevier. (submitted – in print)
3. Minimally Invasive Spine Surgery: Surgical Techniques and Disease Management, 2e. "How and When to Incorporate Minimally Invasive Spine Surgery for Treatment of Advanced Deformity: Decision-Making." **Jacob Januszewski**, Andrew Vivas, Juan Uribe. Springer. Verlag New York (In process)
4. Surgery of the Thoracic Spine: Principles and Techniques. "Midline Disc Herniations of the Thoracic Spine." Shashank Gandhi, **Jacob Januszewski**, Juan Uribe. Thieme. (Submitted – in review process)
5. Degenerative Cervical Myelopathy and Radiculopathy: Treatment Approaches and Options: "Cervical Laminectomy and Fusion." **Jacob Januszewski**, Juan Uribe. Springer. Verlag, New York. (Submitted – in review process)
6. Degenerative Cervical Myelopathy and Radiculopathy: Treatment Approaches and Options: "Reconstructive Procedures in the Osteoporotic Patient." **Jacob Januszewski**, Juan Uribe. Springer. Verlag, New York. (Submitted – in review process)

Journal Articles

1. **Jacob Januszewski**, Andrew C. Vivas, Juan S. Uribe. Limitations and Complications of Minimally Invasive Spinal Surgery. (Accepted in Ann. Transl. Med., January 17, 2018)
2. **Jacob Januszewski**, Shashank Gandhi, K. Bach, A. Vivas, CP. Yen, J. Peluzzi, J.S. Uribe. Minimally Invasive Lateral Transpsoas Interbody Fusion at the L4/5 Level. A review of 61 consecutive cases. (Accepted in Operative Neurosurgery, December 22, 2017)
3. **Jacob Januszewski**, Joshua M. Beckman, Konrad Bach, Andrew Vivas, Jason Paluzzi, Juan S. Uribe. Indirect Decompression and Reduction of Lumbar Spondylolisthesis Does Not Result in Higher Rates of Immediate and Long Term Complications. J Clin Neurosci. 2017. Jul 29 ePub ahead of print.
4. Juan S. Uribe, **Jacob Januszewski**, Michael Wang, Neel Anand, David O. Okonkwo, Stacie Nguyen, Khoi Than, Pierce Nunley, Paul Park, Adam S. Kanter, Richard Fessler, Gregory M. Mundis, Robert K. Eastlack, ISSG. Patients with High Pelvic Tilt Achieve the Same Clinical Success as Those with Low Pelvic Tilt After Minimally Invasive Deformity Surgery. Neurosurgery. 2017. Aug 17 ePub ahead of print
5. **Jacob Januszewski**, Joshua M Beckman, Jeffrey E. Harris, Alexander W. Turner, Chun Po Yen, Juan S. Uribe. Biomechanical Study of Rod Stress after Pedicle Subtraction Osteotomy versus Anterior Column Reconstruction: A Finite Element Analysis. Surg Neurol Int. 2017 Sep 6;8:207.
6. Naomi A. Abel, **Jacob Januszewski**, Andrew C. Vivas, Juan S. Uribe. Femoral Nerve and Lumbar Plexus Injury After Minimally Invasive Lateral Retroperitoneal Transpsoas Approach: Electrodiagnostic Prognostic Indicators and a Roadmap To Recovery. Neurosurg Rev. 2017. May 30 ePub ahead of print.
7. **Januszewski J**, Keem SK, Smith W, Beckman JM, Kanter AS, Oskuian RJ, Taylor W, Uribe JS. The Potentially Fatal Ogilvie's Syndrome in Lateral Transpsoas Access Surgery: A multi-Institutional Experience with 2930 patients. World Neurosurg. 2016 Dec 3 (16)31280-3
8. **Jacob Januszewski**, Lauren L. Albert, Abdulah Alobaid, Karen S. Black. Amir R. Dehdashti. The usefulness of diffusion tensor imaging and tractography in surgery of brainstem cavernous malformations. World Neurosurgery. 2016 September; 93:377-88.
9. **Jacob Januszewski**, Jeffrey Beecher, David J. Chalif, Amir R. Dehdashti. Flow based evaluation of cerebrovascular revascularization by near-infrared indocyanine green videoangiography. J. Neurosurgery Focus. 2014 February; 36(2):E14.

10. Chopra DP, Menard RE, **Januszewski J**, Mattingly RR. TNF-alpha-mediated apoptosis in normal human prostate epithelial cells and tumor cell lines. Cancer Lett. 2004 Jan 20;203(2):145-54.
11. Andrew Vivas, **Jacob Januszewski**, Jason Paluzzi, Shashank Gandhi, Juan Uribe. Lateral Incisional Hernia After MIS Lateral Access Surgery. A review of 303 cases. (Revision Submitted to Operative Neurosurg: January, 2018)
12. Shashank Gandhi, **Jacob Januszewski**, Randall Graham, Andrew Vivas, Jason Paluzzi, Juan S. Uribe. Development of Proximal Junctional Kyphosis After Minimally Invasive Lateral Anterior Column Realignment (ACR) for Adult Spinal Deformity. (Revision Submitted to Neurosurgery: January, 2018)
13. K. Bach, **Jacob Januszewski**, J. Paluzzi, J., A. Vivas, J. Ford, S. Decker, J.S. Uribe. Morphometric analysis of lumbar intervertebral disc height: an imaging study. (Submitted to JNS: Spine: December, 2017)
14. Chun-Po Yen, **Jacob Januszewski**, Andrew Vivas, Juan S. Uribe. A Novel Entry Point for Minimally Invasive Percutaneous Iliac Fixation. (Submitted to Operative Neurosurgery, September 2017)
15. Randall B. Graham, **Jacob Januszewski**, Juan S. Uribe. Radiological checklist for MIS lateral access surgery. (Submitted to World Neurosurgery: Sept, 2017)
16. Juan S. Uribe, **Jacob Januszewski**, Gregory Mundis, Serena Hu, Pedro Berjano, David Okonkwo, Adam S. Kanter, Deviren Vedat, Robert Eastlack, Praveen Mummaneni. The Comprehensive Anatomical Classification of Anterior Release Surgery. (Submitted to JNS Spine: Sept, 2017)
17. **Jacob Januszewski**, Summer J. Decker, Ryan Murtagh, Jonathan Ford, Konrad Bach, Shashank Gandhi, Juan S. Uribe. A Novel 3D MRI Neurography Technique for Lumbar Plexus Reconstruction in Minimally Invasive Lateral Access Spine Surgery. (In Preparation)
18. Fayyadh R. Yusuf, Charles Paidas, **Jacob Januszewski**, Juan S. Uribe, Harry van Loveren. Benefits of non-technical skills coaching in academic neurosurgery. (In Submission)
19. Jason Paluzzi, **Jacob Januszewski**, Andrew Vivas, Brooks Osburn, Chun-Po Yen, Konrad Bach, Mark Greenberg, Donald Smith, Juan Uribe. The Role of Minimally Invasive Anterior Column Reconstruction in Maintaining Sagittal Balance. (In Preparation)
20. Shashank Gandhi, **Jacob Januszewski**, Juan S. Uribe. Short and Long Fusion Constructs with or without Iliac Instrumentation for Adult Spine Deformity Surgery. (In Preparation)
21. Joshua M. Beckman, **Jacob Januszewski**, Puya Alikhani, Juan S. Uribe. MIS technique for traumatic thoracolumbar fracture stabilization and correction of deformity. (In Preparation)

22. **Jacob Januszewski**, Paul McBride, Konrad Bach, Andrew Vivas, Jason Paluzzi, Juan S. Uribe. Prognostic Factors for Indirect Lumbar Decompression in Lateral Access Surgery. (In Preparation)
23. Andrew Vivas, **Jacob Januszewski**, Jason Paluzzi, Juan S. Uribe. MIS management of ankylosing spondylitis fractures: Technical Note (In Preparation)
24. **Jacob Januszewski**, Victor Du, Amrit Chiluwal, Justin Virojanapa, Jamie Ullman. Subdural evacuation port system (SEPS) placement location may alter radiographic, but not clinical outcomes, and may result in unnecessary secondary procedures. (In Preparation)
25. **Jacob Januszewski**, Jeffrey S. Beecher, David J. Chalif, Jeffrey M. Katz, Amir R. Dehdashti. The value of integrated angiosuite and operating room in brain AVM surgery: update on current utilization and technique. (In Preparation).
26. **Jacob Januszewski**, Jeffrey Beecher, Shamik Charaborty, Shashank Gandhi. Role of routine head CT imaging in emergency department evaluations: diagnostic yield and cost effectiveness. (In Preparation)

Published Abstracts

- 1 Heidi L Lujan, Victoria J. Kramer, **Jacob Januszewski** and Stephen E. DiCarlo (2006) Enhanced Vascular Alpha-Adrenergic Receptor Responsiveness in Spinal Cord Injured Rats Is Associated With Decreased eNOS and SOD-1 Expression. The FASEB Journal. 2006;20:A1426
2. Heidi L Lujan, Deepti Ahuja, **Jacob Januszewski** and Victoria J. Kramer (2006) Ovariectomy Reduces the Arrhythmia Threshold Induced by Coronary Artery Occlusion in Conscious Rats. The FASEB Journal. 2006;20:A773
3. Moore, DB, Michel, DA, **Januszewski, J** (2002) Requirement of the TACE cytoplasmic domain for interaction with PKC: potential implications for proteolytic processing of Alzheimer's amyloid precursor protein. Society for Neuroscience Abstracts.
4. Stevens-Truss, R., Fields, P.R., **Januszewski, J.**, and Moore, D.B. "Activation of BV2 Microglial Cells Involves Different Protein Kinase C Isoforms" (2004) American Society for Biochemistry & Molecular Biology Annual meeting & 8th International Union of Biochemistry & Molecular Biology Conference, Boston, Mass, June 12-16, 2004.

Podium Presentations and Posters:

1. **Jacob Januszewski**, Summer J. Decker, Ryan Murtagh, Jonathan Ford, Konrad Bach, Shashank Gandhi, Juan S. Uribe. A Novel 3D MRI Neurography Technique For Lumbar Plexus Reconstruction in Minimally Invasive Lateral Access Spine Surgery. (Oral Podium Presentation, SOLAS, San Diego: May 18, 2017).

2. **Jacob Januszewski**, Gregory Mundis, Serena Hu, Pedro Berjano, David Okonkwo, Adam S. Kanter, Deviren Vedat, Robert Eastlack, Praveen Mummaneni, Juan S. Uribe. The Comprehensive Anatomical Classification of Anterior Release Surgery (ACR). (Oral Podium Presentation, SOLAS, San Diego: May 18, 2017).
3. Paul McBride, **Jacob Januszewski**, Andrew Vivas, Jason Paluzzi, Shashank Gandhi, Juan Uribe. Lateral Incisional Hernia After MIS Lateral Access Surgery. A review of 303 cases. (Oral Podium Presentation, SOLAS, San Diego: May 19, 2017).
4. K. Bach, **Jacob Januszewski**, J. Paluzzi, J., A. Vivas, J. Ford, S. Decker, J.S. Uribe. Morphometric analysis of lumbar intervertebral disc height: an imaging study. (Oral Podium Presentation, SOLAS, San Diego: May 18, 2017).
5. Jason Peluzzi, Andrew Vivas, Brooks Osburn, **Jacob Januszewski**, Chun-Po Yen, Konrad Bach, Mark Greenberg, Donald Smith, Juan Uribe. The Role of Minimally Invasive Anterior Column Reconstruction in Maintaining Sagittal Balance. Oral Podium Presentation, SOLAS, San Diego: May 18, 2017).
6. Shashank Gandhi, **Jacob Januszewski**, Randall Graham, Andrew Vivas, Jason Paluzzi, Juan S. Uribe. Development of Proximal Junctional Kyphosis After Minimally Invasive Lateral Anterior Column Realignment (ACR) for Adult Spinal Deformity. Oral Podium Presentation, SOLAS, San Diego: May 18, 2017).
7. Juan S. Uribe, **Jacob Januszewski**, Michael Wang, Neel Anand, David O. Okonkwo, Stacie Nguyen, Khoi Than, Pierce Nunley, Paul Park, Adam S. Kanter, Richard Fessler, Gregory M. Mundis, Robert K. Eastlack, ISSG. Patients with High Pelvic Tilt Achieve the Same Clinical Success as Those with Low Pelvic Tilt After Minimally Invasive Deformity Surgery. (Plenary session oral presentation, AANS, Los Angeles, April 2017).
8. **Jacob Januszewski**, Chun-Po Yen, Puya Alikhani, Andrew C. Vivas, Jason Paluzzi, Konrad Bach, Juan S. Uribe. Supplemental Comprehensive Anatomical Spinal Osteotomy and Anterior Column Reconstruction Classification. (ePoster, AANS, Los Angeles, April 2017).
9. **Jacob Januszewski**, Paul McBride, Konrad Bach, Andrew Vivas, Jason Paluzzi, Juan S. Uribe. Prognostic Factors for Indirect Lumbar Decompression in Lateral Access Surgery. (ePoster, AANS, Los Angeles, April 2017).
10. **Januszewski J**, Keem SK, Smith W, Beckman JM, Kanter AS, Oskuian RJ, Taylor W, Uribe JS. The Potentially Fatal Ogilvie's Syndrome in Lateral Transpoas Access Surgery: A multi-Institutional Experience with 2930 patients. (ePoster, AANS, Los Angeles, April 2017).
11. **Jacob Januszewski**, Puya Alikhani, Andrew Vivas, Juan Uribe. Lateral Incisional Hernia After MIS Lateral Access Surgery. (ePoster, AANS, Los Angeles, April 2017).

12. **Jacob Januszewski**, Shashank Gandhi, K. Bach, A. Vivas, CP. Yen, J. Palazzi, J.S. Uribe. Lumbar plexus injury after MIS lateral transpoas interbody fusion at L4/5: a review of 61 consecutive cases. (Oral Presentation. Spine Section, Las Vegas, February, 2017)
13. Andrew Vivas, **Jacob Januszewski**, Juan S. Uribe. New technique for MIS iliac screw placement. (Oral Presentation. SMISS, Las Vegas, 2016).
14. **Jacob Januszewski**, K. Bach, A. Vivas, CP. Yen, J. Palazzi, J.S. Uribe. Lumbar plexus injury after MIS lateral transpoas interbody fusion at L4/5: a review of 61 consecutive cases. (Oral Presentation. SMISS, Las Vegas, 2016)
15. **Jacob Januszewski**, Victor Du, Amrit Chiluwal, Justin Virojanapa, Jamie Ullman. Subdural evacuation port system (SEPS) placement location may alter radiographic, but not clinical outcomes, and may result in unnecessary secondary procedures. (Poster at CNS September, 2015)
16. Abdulah Alobaid, Victor Du, **Jacob Januszewski**, Todd B. Schaeffer, Mark B. Eisenberg. Endoscopic transnasal transsphenoidal (TSP) approaches to the sella: expanded transseptal (ETS) compared to binasal (BN) approach. A retrospective study and description of surgical technique. (Poster at CNS 2015)
17. Erez Nossek, **Jacob Januszewski**, Avi Setton, David Chalif. Paradigm for multi-modality treatment of supraclinoidal side-wall ICA aneurysms: single-center review of 330 aneurysms. (Oral Presentation at EANS, Prague October, 2014)
18. **Jacob Januszewski**, Abdullah Alobaid, Karen S. Black, Amir R. Dehdashti. The utility of diffusion tensor imaging and tractography in surgery of brainstem cavernous malformations. AANS/CNS CV section February 2015 (Oral Presentation).
19. **Jacob Januszewski**, Jeffrey Beecher, David J. Chalif, Amir R. Dehdashti. Flow based evaluation of cerebrovascular revascularization by near-infrared indocyanine green videoangiography. New York State Neurosurgical Society – June 2014 (Oral Presentation)
20. **Jacob Januszewski**, Jeffrey Beecher, David J. Chalif, Amir R. Dehdashti. Flow based evaluation of cerebrovascular revascularization by near-infrared indocyanine green videoangiography. AANS/CNS CV Section, San Diego, CA – February 2014 (Oral Presentation)
21. **Jacob Januszewski**, Jeffrey Beecher, David J. Chalif, Amir R. Dehdashti. Flow based evaluation of cerebrovascular revascularization by near-infrared indocyanine green videoangiography. AANS 2014 (Poster)
22. **Jacob Januszewski**, Clifford Houseman, Shital Gandhi, Mansoor Nasim, Ahmad Latefi. Metastatic Squamous Cell Carcinoma with Abscess to the Brain: Utilization of ADC Ratios in Diagnosis. Case Report. AANS New Orleans, May 2013 (Poster)

23. **Jacob Januszewski.** Basal Ganglia: Anatomy and Physiology. (Power Point Presentation). Providence Hospital - Southfield, MI. *September 24, 2009*
24. **Jacob Januszewski.** Neuroimaging in Neuro-Oncology. (Power Point Presentation). Henry Ford Hospital - Detroit, MI. *August 26, 2009*
25. **Jacob Januszewski.** Management of Subarachnoid Hemorrhage and Aneurysms. (Power Point Presentation). Primary Care Ambulatory Clerkship. St. John – Macomb Hospital. *June 19, 2009*
26. **Jacob Januszewski** and D Blaine Moore, Ph.D. (2005) Expression of Mutant Epitope-Tagged TACE Constructs in TACE Knockout Fibroblasts and the Importance of TACE Cytoplasmic Domain in PKC-Mediated Phosphorylation. Diebold Symposium, Kalamazoo College, Kalamazoo, MI. May, 2005 (Poster)
27. **Jacob Januszewski** and D Blaine Moore, PhD. Expression of Mutant Epitope-Tagged TACE Constructs in TACE Knockout Fibroblasts and the Importance of TACE Cytoplasmic Domain in PKC-Mediated Phosphorylation. Poster Presentation. PEW Symposium for undergraduate researchers at the University of Chicago, Chicago, IL. October 26-31, 2004 (Poster)
28. **Jacob Januszewski.** “Helping People With Dementia: Eliminating the Stigma of the Disease” (2004). Kalamazoo College ICRPs – Perth Australia. May, 2004 (Poster).

Academic Honors:

- 2005: Kalamazoo College Dean’s List
- 2003: Kalamazoo College Dean’s List
- 2001: Recipient of Kalamazoo College Honors Award
- 2001: Recipient of Michigan Competitive Scholarship
- 2001: Chosen for Detroit’s Brightest and Best Students
- 2001: Listed in Who's Who among Students in American High Schools
- 2001: National Youth Science Camp Michigan Delegate
- 2001: Hamtramck High School Valedictorian (GPA 4.0)

Professional Societies:

- CNS – member: 2015-Present
- AANS - provisional member: 2016-Present
- SOLAS – member: May 2017 – Present
- Member of ACOS: 2010 – 2016
- Member of NYCOMECC: 2010 – 2016
- Member of AOA 2006-Present
- Member of AMA 2006-2010
- Member of MOA 2006-2010
- Member of CIM (Community Integrated Medicine) 2006-2010
- Member of SOSA (Student Osteopathic Surgical Association) 2006-2010

Member of SOMA (Student Osteopathic Medical Association) 2006-2010
President of the International Student Organization (ISO) for 2004-2005
Member of the Curtin Volunteers (July-February) 2003-2004
Vice President of the International Student Organization 2003-2004 (spring quarter)
Vice President of the International Student Organization 2002-2003
Member of the International Student Organization 2001-2002

Community Outreach and Volunteer Work:

April-May 2008: Neuroanatomy Tutor for the Class of 2011.

July-August 2007: Gross Anatomy Tutor for the Class of 2011.

November 4, 2006: Administered Flu shots to politicians in Lansing at the Capitol Building. Over 500 flu shots were administered by medical students that day.

October, 2006-August, 2007: Volunteered at Friendship Clinic; admitted underserved patients, took history, review of systems, and physical examination. Discussed treatment options and plan with the attending.

April-October, 2004: Personal Care Assistant at Heritage Community of Kalamazoo. Assisted with the basic daily living needs: clothing, feeding bathing, entertaining, walking, and helping with emotional problems.

January-February 2004: Volunteer at Rowethorpe Retirement Village (Alzheimer's Division) and Alzheimer's Australia – Mary Chester Day Center. Helped to take care of people with dementia and assisted with activities purposely set up for those people. Entertained and conversed with the people, prepared food, and helped to collect people's life histories for the retirement village staff. I also started to learn more about dementia care mapping, person-centered approach to care, and postulated ideas on the possible psychological effects on dementia formation. Also shadowed a visiting doctor for one day, witnessed and learned about the physical problems afflicting the residents I was taking care of, and (under doctor's supervision) helped to diagnose a few cases pointed out by the doctor.

2003-2004: Volunteer for Curtin Volunteers at Curtin University, Western Australia: Coordinator between Curtin Volunteers and Rowethorpe Retirement Center. Facilitated fabrication of a continuous volunteering program at the Retirement Center; also helped out in the local community with various environmental and community projects.

Basic Science Research Techniques:

Molecular Biology

Standard recombinant DNA techniques (nucleic acid purification, cDNA cloning, bacterial transformation, etc.), Polymerase Chain Reaction (PCR), site-directed mutagenesis, Northern blots.

Biochemistry and Cell Biology

Western blot, Immunoprecipitation (IP), IP-Western blot, tris-glycine polyacrylamide gel electrophoresis.

Cell Culture, Gene Expression, and Microscopy

Culture of cell lines (CHO 695, 293T cells, PC3 and LN Cap; C-17 neuronal stem cells), creation of transiently transfected cell lines, Geneporter transfection of cells. Histology, Immunocytochemistry, Microtome sectioning, Immunohistochemistry, BCA protein assay, Flour-S-Image analysis software, Confocal Microscopy

Computational Neuroscience

Some preliminary experience in NEURON: using a Hodgkin-Huxley model, FitzHugh-Nagumo model, Hebbian learning rules, and Cable equation to simulate neuron behaviors and temporal dynamics.

Animal Dosing

Oral gavage, dermal, subcutaneous, intramuscular, and intravenous dosing; blood (orbital sinus and jugular vein) and faecal collection; body weight and food consumption measurement collection.

Physiology

Using MacLab system and DataScience telemetric transmitters to study cardiac output, heart rate, and arterial pressure of laboratory rats.

Surgery:

Electrode implantation on a rat's wrist for median nerve stimulation.

General

Word processing and spreadsheet software on Windows and Macintosh formats, Flour-S-Image analysis software, Microsoft FrontPage, Adobe Premiere, Provantis, eCare Powerchart

Interests:

Traveling, scuba diving, snowboarding, long distance running, weight lifting, sport and travel videography, web production and webcasting.