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THE CONGRESS OF NEUROLOGICAL SURGEONS

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Preface

The 59th Annual Meeting of the Congress of Neurological Surgeons was held in New Orleans, Louisiana, from October 24-29, 2009. Volume 57 of *Clinical Neurosurgery* represents the official compilation of the invited scientific manuscripts from the plenary sessions, The Presidential Address by Dr David Adelson, and biographic and bibliographic information of the Honored Guest, Dr James T. Rutka.

Dr Nathan Selden, Annual Meeting Chairman, and Drs Ali Rezai and Russell Lonser, Scientific Program Chair and Vice Chair respectively, organized a superb meeting which was very well attended with more than 2800 medical attendees. The theme of this year’s Annual Meeting, *A Culture of Excellence*, exemplified how neurosurgeons define, pursue, and measure excellence in their everyday practice and specialty. Dr David Adelson delivered his inspirational Presidential Address entitled, “Neurosurgery: A Culture of Excellence,” and talked about the concept of “excellence.” This meeting was also a joint meeting with our neurosurgical colleagues from the Neurological Society of India (NSI) and the American Association of South Asian Neurosurgeons (AASAN).

Honored Guest, Dr James T. Rutka, Professor and Chairman of Neurosurgery at the University of Toronto, gave three scholarly addresses discussing his philosophy about “excellence” in neurosurgery program building and how to enhance the academic mission, “excellence” in clinical neurosurgery using epilepsy surgery as an example, and “excellence” in neurosurgical research using neuro-oncology as a paradigm. Dr Rutka’s final quote continues to resonate in our ears: “great surgeons are not born, rather they are made by a commitment or willingness to pay the price for excellence.”

It has been my honor and privilege to serve as Editor of *Clinical Neurosurgery* over the last few years. We thank Dr Nelson Oyesiku, Editor-in-Chief of *NEUROSURGERY™*, for his unrelenting support and advice. We also thank Michele Lengerman and Laurie Behncke from the CNS Headquarters Office for their dedication, tireless energy, and hard work throughout the year as well as Christine Pruitt-Plasterer at Wolters Kluwer Health, Lippincott Williams and Wilkins for her patience and commitment to *Clinical Neurosurgery*.

We welcome Dr Gerald Rodts, Jr, as the new President of the Congress of Neurological Surgeons and look forward to seeing you all in San Francisco.

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JAMES T. RUTKA
Honored Guest
James T. Rutka, MD, PhD, FRCSC, FACS, FAAP

Born in Toronto, and educated at Princeton University (1975-1977) and Queen’s University Medical School (1977-1981), James T. Rutka, MD, PhD, FRCSC, FACS, FAAP, interned at McGill University (1981-1982) before entering the University of Toronto Neurosurgery Training Program in 1982. His training included a research fellowship at the Brain Tumor Research Center, the University of California San Francisco where he obtained his PhD in Experimental Pathology (1984-1987). Upon conclusion of his neurosurgical residency in 1989, Dr Rutka did a clinical fellowship in microvascular neurosurgery with Dr Kenichiro Sugita at the University of Nagoya, and a post-doctoral research fellowship in molecular immunology at Juntendo University, Tokyo (1990).

Dr Rutka assumed his appointment in the Department of Surgery, Division of Neurosurgery in 1990, and has been on the surgical staff at the Hospital for Sick Children in the Division of Pediatric Neurosurgery since that time. Dr Rutka’s primary research and clinical interests relate to the science and surgery of human brain tumors. His laboratory interests lie in the molecular biology of human brain tumors - specifically in the determination of the mechanisms by which brain tumors grow and invade. His recent clinical interests have centered on the surgical treatment of epilepsy in children. He has over 250 peer-reviewed publications. His laboratory has been continually funded with grants from the CIHR, NCIC, OICR and the Pediatric Brain Tumor Foundation (since 1992). He is on the editorial boards of the Journal of Neurosurgery, NEUROSURGERY®, the Journal of Neuro-Oncology and Neuro-Oncology.

Dr Rutka was appointed as Co-Director of the Arthur and Sonia Labatt Brain Tumor Research Centre at the University of Toronto in 1998. In 1999, he received a Scientist Award from the Medical Research Council of Canada. That same year, Dr Rutka was promoted to Professor in the Department of Surgery, and was appointed Chairman of the Division of Neurosurgery at the University of Toronto. He currently holds the Dan Family Chair in Neurosurgery. In 2001, Dr Rutka received the Lister Award in the Department of Neurosurgery for sustained contributions to surgical research at the University of Toronto. In 2002, Dr Rutka was listed by Globe and Mail as one of the Nation Builders in Canada, in the section of Science and Technology. In 2004, he was honored with the Grass Award from the Society of Neurological Surgeons. In 2005, he received the Farber Award from the AANS/CNS Section on Tumors for longstanding contributions to neuro-oncology research. In 2006, Dr Rutka was appointed to the position of Secretary of the American Association of Neurological Surgeons and was awarded the International Order of Smile, an award which honors individuals for their love, care and aid of children.
PA-denotes Principal Author; SRI-Senior Responsible Investigator; CPA-Co-Principal Author; C-Collaborator

PEER REVIEWED - JOURNAL PUBLICATIONS

PUBLISHED


BIBLIOGRAPHY xxi


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NON PEER REVIEWED - JOURNAL PUBLICATIONS

PUBLISHED


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PUBLISHED


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ACCEPTED FOR PUBLICATION


GENERAL PUBLICATIONS AND REPORTS

**PA**-DENOTES PRINCIPAL AUTHOR; **SRI**-SENIOR RESPONSIBLE INVESTIGATOR; **CPA**-CO-PRINCIPAL AUTHOR; **C**-COLLABORATOR

INVITED REVIEWS

PUBLISHED


LETTERS TO EDITOR

PUBLISHED


ABSTRACTS


98. Bhardwaj RD, Widjaja E, Mahmoodabadi S, Otsubo H, Snead CO, Rutka JT: Combination of MEG and DRT1 tractography detect novel white tract formation in the

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PEER REVIEWED PAPERS READ AT SCIENTIFIC MEETINGS


OTHER LECTURES OR PAPERS GIVEN
34. Department of Paediatrics The Hospital for Sick Children, Toronto Ontario, Apr 29, 2000. Paediatric Brain Tumors.
45. 38th Meeting of the Canadian Congress of Neuorological Sciences, Quebec, Jun 17, 2003 - Jun 21, 2003. 3D-reconstruction of magnetic source image data for intra-operative navigating system.
46. 38th Meeting of the Canadian Congress of Neuorological Sciences, Quebec, Jun 17, 2003 - Jun 21, 2003. GFAP and fascin expression in astrocytomas of different grades.
56. 50th Anniversary of Neurosurgery, Yonsei University, Seoul, Korea, May 18, 2007 - May 19, 2007. Surgical management of Rolandic Epilepsy in Children.

POSTER PRESENTATIONS, SCIENTIFIC EXHIBITS AND MOVIE PRESENTATIONS


### RESEARCH AND INVESTIGATION

#### SENIOR INVESTIGATOR’S NAME APPEARS IN BOLD

#### RESEARCH FUNDING - PEER REVIEWED

Molecular genetic characterization of human astrocytomas. **Rutka JT**: Ontario Ministry of Health, Career Scientist Award ($150,000 1990 - 1993)


Transfection of human astrocytoma cells with GFAP cDNA. **Rutka JT**: Dean’s Fund ($10,000 1993)


Cell cycle control of human astrocytomas. **Dirks P, Rutka JT**: Research Fellowship Award, National Cancer Institute of Canada ($35,000 1995 - 1996)

Reducing CSF shunt infections. **Drake JM, Rutka JT, Humphreys RP, Hoffman HJ**: The Hospital for Sick Children Foundation ($120,000 1995 - 1997)

Cell cycle control of human astrocytomas. **Dirks P, Rutka JT**: Research Fellowship Award, Medical Research Council of Canada ($76,000 1996 - 1997)

Regulation of NMDA channels in human epilepsy. **Salter M, Rutka JT**: The Research Institute, The Hospital for Sick Children ($40,000 1997 - 1999)


p16-Induced regulation of astrocytoma tumorigenicity. **Rutka JT, Hamel PA**: National Cancer Institute of Canada ($360,000 1997 - 2001)


Regulation of cerebral salt balance in head injury in children. **Rutka JT, Bohn D**: Physicians Services Incorporated Foundation ($120,000 1997 - 1999)


Cytoskeletal-matrix interactions in astrocytomas. **Ivanchuk S, Rutka JT**: Research Fellowship Award, National Cancer Institute of Canada ($63,000 1998 - 2001)

Hedgehog signaling pathways in medulloblastoma. **Taylor MD, Rutka JT**: Research Fellowship Award, National Cancer Institute of Canada ($120,000 1998 - 2001)

Intermediate filament-induced alterations in astrocytoma tumorigenicity and morphology. **Rutka JT, Dirks PB, Becker LE**: Medical Research Council of Canada ($216,000 1998 - 2001)


Cytoskeletal: Matrix interactions regulating astrocytoma tumorigenicity. **Rutka JT**: Medical Research Council of Canada Scientist Award ($300,000 1999 - 2004)

Role of hedgehog signaling in brain and cartilage neoplasms. **Alman B, Rutka JT, Hui CC**: National Cancer Institute of Canada/Terry Fox New Frontiers Initiative ($570,000 1999 - 2002)

Treatment of astrocytomas with verotoxin. **Mainprize T, Rutka JT**: Research Fellowship Award National Cancer Institute of Canada ($130,000 1999 - 2002)
p16 regulated alteration of astrocytoma cytoskeletal formation. Langlois A, Rutka JT: Fellowship Award, Association de Recherche Contre Cancer France ($60,000 1999 - 2001)


Canadian Centre for Applied Cancer genetics. Malkin D, Rutka JT: Canada Foundation for Inovation ($2,175,000 2001 - 2005)


Sonic hedgehog and WNT signaling blockade as a treatment for paediatric medulloblastoma. Rutka JT, Hawkins C: Katie’s Kids for the Cure (“Foundation”) ($150,000 2002 - 2004)

Signaling and degradation network of Toronto, SIDNET. Rotin D, Rutka JT: Canadian Centre for Applied Cancer Genetics ($5,185,329 2002 - 2004)

Cytoskeletal: matrix interactions regulating astrocytoma tumorigenicity. Rutka J, Becker L: Canadian Institutes of Health Research ($300,000 2001 - 2004)

The Role of Gli 2 in Medulloblastoma. Rutka JT, Mainprize T: Pediatric Brain Tumor Foundation of the United States ($140,000 2002 - 2003)


Role of hedgehog signaling in the pathogenesis of medulloblastoma. Rutka JT, Taylor MD: National Cancer Institute of Canada ($450,000 2005 - 2008)

The role of cytoskeletal GTPases in astrocytoma migration. Rutka JT: Canadian Institutes of Health Research ($500,000 2004 - 2009)


The Role of Abherrant HGF/cMET Signaling in Medulloblastoma. Rutka JT: Canadian Cancer Society ($378,000 2008 - 2011)

The role of isochromosome 17q in medulloblastoma. Rutka JT, Dirks P, Taylor MD, Tabori U: Pediatric Brain Tumor Foundation ($1,198,800 2008 - 2011)

Characterization of nanoparticle delivery across the blood brain barrier. Rutka, JT: Brain Tumour Foundation of Canada ($24,500 2009)

The role of the guanine nucleotide exchange factor, ECT2, in glioma migration, invasion and tumorgenicity. Weeks A, Rutka JT: Canadian Cancer Society Research Institute, Fellowship Award ($150,000 2009 - 2012)
Molecular targeting of the Rho-GTPase pathway in astrocytomas. Rutka JT, Hynynen K, Mainprize T: Canadian Institutes of Health Research ($797,005 2010 - 2015)

Research Funding - Non Peer Reviewed


Start-up funds. Rutka JT: The Hospital for Sick Children Research Institute ($25,000 1990 - 1991)

Equipment award. Rutka JT: The Hospital for Sick Children Research Institute ($3,978 1991)


Prospective, open-label, parallel-group, randomized, multicenter trial comparing the efficacy of surgery, radiation and injection of murine cells producing herpes simplex thymidine kinase vector followed by intravenous ganciclovir against the efficacy of surgery and radiation in the treatment of newly diagnosed, previously untreated glioblastoma. Bernstein MA, Rutka JT: Sandoz Canada Incorporated ($250,000 1996 - 1997)


Characterisation of the ARF/DAXX interaction in human astrocytomas. Rutka JT, Ivanchuk S: Brainchild, c/o The Hospital For Sick Children ($11,000 2002)

Determination of novel genes expressed by Paediatric Ependymomas. Rutka JT: b.r.a.i.n.child ($20,000 2003 - 2004)


The role of Glial Cells Missing in brain development and Cancer. Rutka, JT: b.r.a.i.n.child ($20,000 2003 - 2004)

Transcriptional Basis for the formation of isochromosome 17q in Medulloblastoma. Rutka JT: b.r.a.i.n.child ($20,000 2003 - 2004)


BTRC Pediatric Brain Tumor repository and database for brain tumors and associated blood. Rutka JT: b.r.a.i.n.child ($24,585 2009)

SPINT2 Mouse Model of Medulloblastoma BC 09-07. Rutka JT: Brainchild ($22,000,000 2009)

Effects of dysregulated HGF/cMet signalling on cerebellar development and medulloblastoma formation. Onvani S, Rutka JT: b.r.a.i.n.child ($23,645 2010)
Mouse modeling the loss of Ect2 and its implications in brain tumors and brain development. **Weeks A, Rutka JT:** b.r.a.i.n.child ($23,700 2010)

Optimized delivery of small molecules designed to prevent spreading in a mouse model of astrocytoma. **Etame A, Rutka JT:** b.r.a.i.n.child ($23,000 2010)

**Research Endeavours - Not Funded**


Prognostic significance of 1q gain in ependymoma. **Rutka JT**

Protein markers in medulloblastomas. **Rutka JT**

Role of MAGE in medulloblastomas. **Rutka JT**

**Patents**

$1,000 for graduate research. **Rutka JT:** University of California San Francisco Patent Fund Award. 1987

**HONOURS AND AWARDS RECEIVED**

Ontario Scholar. 1975

David Edward Mundell Prize in Orthopaedic Surgery, Queen's University. 1981

Dean Fowler Prize for highest standing in final year medical school, Queen's University. 1981

Edgar Forrester Scholarship for academic excellence, Queen's University. 1981

Hannah Washburn Polson Prize for Medicine, Surgery and Obstetrics, Queen's University. 1981

Medical Research Council of Canada, Research Fellowship Award, Brain Tumor Research Center, University of California, San Francisco (over 3 years). 1984

Craig Baldachin Memorial Travel Award, University of California, San Francisco. 1986

K.G. McKenzie Award for Neurosurgical Research, Division of Neurosurgery, University of Toronto. 1986

The D.R. Wilson Award for Teaching, Department of Surgery Undergraduate Education, University of Toronto. 1987

American Academy of Neurological Surgery Resident Research Award, Golden Anniversary Meeting, Cincinnati, Ohio. 1988

Gallie-Bateman Prize for Surgical Research, Department of Surgery, University of Toronto. 1988

Morley Prize for Neurosurgical Research, Division of Neurosurgery, University of Toronto. 1988

Congress of Neurological Surgeons Fellowship for Clinical Studies in Japan. 1990
Japan Society for the Promotion of Science Fellowship for Research Studies in the Department of Immunology, Juntendo University, Tokyo, Japan. 1990
Kenichiro Sugita Clinical Scholar for Neurosurgical Study in Japan. 1990
Ontario Ministry of Health Career Scientist Award (3 Years). 1990
Roscoe Reid Graham Fellowship, Department of Surgery, University of Toronto. 1990
World Health Organization Fellowship for Neurosurgical Studies in Japan. 1990
George Armstrong-Peters Prize, Department of Surgery, University of Toronto. 1994
Family Advisory Committee, Humanitarian Award, The Hospital for Sick Children. 1996
McKenzie, Johnson and Johnson Travelling Fellowship Award for Epilepsy Surgery. 1996
Medical Research Council of Canada, Career Scientist Award. 1999
AANS/CNS Joint Section On Tumors, Chairman 2001-2003. 2001
Lister Award, Department of Surgery, University of Toronto. 2001
Nation Builder Award, Science & Technology, Globe and Mail. 2002
Appointed American Association of Neurological Surgeons Board of Directors. 2003
Pre-Convocation Ceremony Invited Address, The Graduating Class of 2003, Faculty of Medicine, The University of Toronto. 2003
The Ronald L. Bittner Lecturer at the 2004 AANS Annual meeting in Orlando, Florida May 1-6. 2004
Grass Award at the Society of Neurological Surgeons Annual Meeting, New Orleans, Louisiana, May 22-24. 2004
Farber Award 2005 AANS, New Orleans April 16-21. 2005
The Janes Visiting Professorship of the Royal College of Physicians and Surgeons of Canada. 2005
Knight of the Order of Smile by Kawaler Orderu Usmiechu. 2006
5th Annual Charles H. Tator Surgeon-Scientist Mentoring Award, Department of Surgery, University of Toronto. 2006
Volunteer Service Award Certificate from the Ministry of Ontario. 2009
Honored Guest of the Congress of Neurological Surgeons, Annual Meeting, New Orleans October 24th-29th. 2009
President of the American Association of Neurological Surgeons. 2010
Penfield Lecture, 45th Annual Congress of the Canadian Neurological Sciences Federation, Quebec, On June 8th-11th. 2010
COMMITTEE INVOLVEMENT

**University of Toronto, Faculty of Medicine Committees**
- Search Committee for Dean, Faculty of Medicine, Member
  Jan 15, 1999 - Jun 30, 2000

- Faculty of Medicine, Decanal Promotions Committee, Member
  Feb 10, 1999 - Feb 20, 2002

- Search Committee for Division of Neurology Chair 2000,
  2000 - 2001

- Neuropathology Internal Review Committee, Committee Member
  Oct 28, 2005

- Search Committee, Member, Search Committee Dept Surgery Chair
  Dec 17, 2007

**Department of Surgery Committees**
- Neurotrauma Committee, Division of Neurosurgery, Hospital for Sick Children Representative
  1992 - 1998

- Neuro-Oncology Committee, Division of Neurosurgery, Chairman
  1993 - 1999

- Division Chairs Committee, Member
  1999 - Present

- Senior Advisory Committee, Member
  1999 - Present

- Education Search Committee, U of T, Member
  May 6, 2008

**Hospital Committees**
- Steering Committee HSC/Kiwanis Injury Prevention & Research, The Hospital for Sick Children, Toronto, Ontario, Member
  1991 - 1998

- Trauma Advisory Committee, The Hospital for Sick Children, Toronto, Ontario, Member
  1991 - 1998

- Trauma Care Committee, The Hospital for Sick Children, Toronto, Ontario, Division of Neurosurgery Representative
  1991 - 1998

- Management Committee, The Hospital for Sick Children, Toronto, Ontario, Department of Surgery Representative
  1994 - 1996

- Research Ethics Board, The Hospital for Sick Children, Toronto, Member
  1995 - 1997
- Cardiopulmonary Resuscitation Committee, The Hospital for Sick Children, Toronto, Member 1998 - 1999

- Search Committee for Chief of Research Institute, The Hospital for Sick Children, Toronto, Ontario, Search Committee 
  Sep 1, 2004 - Sep 1, 2005 

- Department of Paediatrics, Division of Neonatology, Mount Sinai Hospital, Toronto, Ontario, 
  Temporay Courtesy Privleges, Operating Room Privleges, Neonatal Intensive Care Unit 
  Jul 1, 2008 - Jun 30, 2009 

**Research Institute**

Dec 1, 2006  
Research Institute, Senior Scientist 

**Medical/Scientific Organizations-Committees/Affiliations**

**13th World Congress of Neurological Surgery**  
Jun 19, 2005 - Jun 24, 2005  
Scientific Program Chair, Marakkech, Morocco 

**14th International Conference on Brain Tumor Research and Therapy**  
May 27, 2001 - May 30, 2001  
Scientific Advisory Board Member, Asilomar, California 

**17th International Conference on Brain Tumor Research Therapy**  
2008  
Scientific Advisory Board Member, Hakodate, Japan, Member 

**Academic Health Sciences Centre, Academic Mission Working Group**  
2006  
Committee Member, Alternate Funding Plan Task Force, Ministry of Health, Ontario 

**Acta Neurochirurgica, The European Journal of Neurosurgery**  
Oct 10, 2003  
Editorial Board Member 

**American Academy of Neurological Surgeons**  
2001 - 2004  
Awards Committee, Member 

2002 - 2005  
Scientific Program Committee Member 

2005  
Scientific Program Committee, Chair, Annual Meeting, Berlin Germany 

2005 - 2008  
Treasurer 

2008  
Secretary 

**American Association of Neurological Surgeons**  
2001 - 2003  
Boards of Directors, Ex-Officio Member 

2001  
Neurosurgery Research and Education Foundation, Council Member 

2003 - 2006  
Director-at-Large, Board of Directors, Member 

2004 - 2005  
Annual Meeting Scientific Program Committee Chair, New Orleans Louisiana, Member 

2004 - 2008  
Publications Committee, Member
2005 - 2006  Annual Meeting Chairman, San Francisco, California, Chairman
2005 - 2006  Education and Maintenance of Certification Committee, Member
2006 - 2009  Secretary
2009 - 2010  President Elect
May 1, 2010 - May 1, 2011  President

American Association of Neurological Surgeons/Congress of Neurological Surgeons Joint Section Activities
1991 - Present  Section on Neurotrauma and Critical Care, Member
1991 - Present  Section on Tumors, Member
1996 - Present  Section on Pediatrics, Member
1998  Section on Tumors, Chair, Scientific Program Committee
1999 - 2001  Secretary Treasurer, Section on Tumors
2001 - 2003  Chairman, Section on Tumors

American College of Surgeons Oncology Group
2002  ACOSOG, Brain Organ Site Committee, Member
2002  International Relations Committee, Member

Brain Tumor Foundation of Canada
2003  Advisory Committee Member

Canadian Cancer Society
Aug 1, 2009 - Aug 1, 2012  Board of Directors at Large, Board of Director at Large

Canadian Neurosurgical Society
1990  Member
1992 - 1998  McKenzie Prize Award Committee, Member

Congress of Neurological Surgeons
1996  Annual Meeting, Luncheon Seminars Committee, Co-Chair, Montreal, Quebec
1996  International Committee, Member
2001 - 2003  Executive Committee, Member-at-Large
2002 - 2007  Nominating Committee
2008  Special Committee for Governance and Administration of Neurosurgery, CNS Committee
2009  Honored Guest, CNS
Current Trends in Neurology: Research Trends
2003 Editorial Advisory Board

Fifth Canadian Congress of Neuro-Oncology
1992 Local Organizing Committee, Member, Huntsville, Ontario

Heart and Stroke Foundation of Ontario
1995 Special Stroke Initiative, Review Committee, Member

Journal of Clinical Neuroscience
Sep 2008 Editorial Board, Editorial Board

Journal of Neuro-Oncology
1992 - Present Editorial Board, Member

Journal of Neurosurgery
1997 - Present Editorial Board, Member

Journal of the Korean Neurosurgical Society
2005 - Present International Advisory Board of the Journal of the Korean Neurosurgical Society, Member

Medical Research Council of Canada, Pathology and Morphology Grants Committee
2000 Nominating Committee, Selection Committee Member

Ministry of Health and Longterm Care (MOHLTC)
2007 - Present Neurosurgery Expert Panel and Neurosurgery Wait Times Strategy, Chair

Molecular and Chemical Neuropathology Journal
1991 Ad hoc Reviewer

National Cancer Institute of Canada
2006 - 2008 Panel B1, Cancer Progression and Metastasis, Grant Panel Member
Jun 1, 2009 Panel F Chair NCIC

National Institute of Health, National Cancer Institute, National Institute of Neurological Disorders and Stroke
2000 National Cancer Institute, NINDS, Brain Tumor Progress Review Group Roundtable Meeting, Committee Member

National Institute of Health, USA
1992 Study Section, Section A, Brain Tumor Feasibility Grants, Invited Reviewer

National Institutes of Health, National Institute of Neurological Disorders and Stroke
Oct 4, 2009 - Oct 6, 2009 Board of Scientific Counselors, National Institutes of Health, Board of Scientific Counselors

Nature Medicine
2003 - Present Ad hoc Reviewer

Neurologia Medico-Chirurgica
Jan 1, 1997 - Present Editorial Board, Member and Commentator
**Neurosurgery**  
1993 - Present  
Editorial Board, Member

**Neurosurgery Research and Education Foundation**  
2001 - Present  
American Association of Neurological Surgeons (AANS), Executive Council Member

**Neurosurgical Review**  
2005 - Present  
Editorial Board, Member

**Pediatric Neurosurgery**  
2002 - 2006  
Editorial Board, Member

**Research Trends “Current Trends in Neurology”**  
May 21, 2003  
Editorial Advisory Board

**Society of Neurological Surgeons**  
2000 - Present  
Member

2002 - 2005  
Executive Council, Member-at-Large

**Society of Neurological Surgeons**  
2003 - Present  
Undergraduate Education Committee, Member

**Textbook of Neuro-Oncology**  
2004 - 2005  
Associate Editor, Elsevier and Saunders Publishing

**The Japan Neurosurgical Society**  
2007 - Present  
Honorary Membership

**The Journal of Histochemistry and Cytochemistry**  
2000 - Present  
Editorial Board, As hoc Reviewer

**The World Federation of Neurological Surgeons**  
2007 - 2008  
Nominating Committee, Chairman

**The World Federation of Neurological Surgeons**  
2001 - 2005  
Neuro-Oncology Committee, Chairman, Scientific Program Chair

2001 - 2005  
Nominating Committee, Chairman

**The World Federation of Neurosurgical Surgery**  
2005 - 2009  
Assistant Secretary XIV World Congress of Neurological Surgery, Boston Massachusetts

**University-Industry Committee CIHR**  
2003  
Grant Committee, Committee Member

**MEDICAL/SCIENTIFIC ORGANIZATIONS-MEMBERSHIPS**
- American Academy of Neurological Surgery
- American Academy of Pediatrics
- American Association for Cancer Research
- American Association of Neurological Surgeons
- American College of Surgeons
- Canadian Brain Tumor Consortium
- Canadian Congress of Neurological Surgeons
- Canadian Medical Association
- Canadian Neurosurgical Society
- College of Physicians and Surgeons of Ontario
- Congress of Neurological Surgeons of the United States
- International Society for Pediatric Neurosurgery
- North American Skull Base Society
- Ontario Medical Association
- Princeton University Neurosurgical Society
- Society of Neurological Surgeons

CLINICAL AND APPLIED BASIC RESEARCH

Gene bank Submission: AY081818-AY081829

Title: Mutations in SUFU predispose to medulloblastoma
Medline: 22084371
Pubmed: 12068298

PRACTICE INTERESTS AND AREAS OF SUBSPECIALIZATION

Pediatric Neuro-Oncology

Pediatric Epilepsy