

CURRICULUM VITAE

Philip Hitchins Schwartz, PhD

BUSINESS ADDRESS: National Human Neural Stem Cell Resource
Neuroscience Laboratories
Children's Hospital of Orange County Research Institute
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Orange, California 92868-3874
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Page: (800) 418-1961
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Web Site: www.nhnsr.org

EDUCATION:

Graduate: *Ph.D., Neuroscience (with minor in Pharmacology), 1992*
Brain Research Institute
School of Medicine
University of California, Los Angeles

Dissertation: *"An Adult and a Neonatal Model of Cerebral Ischemia: Participation of Excitotoxic Mechanisms"*

Thesis Committee:
Claude G. Wasterlain, M.D., Neurology, *Chair*
Richard Olsen, PhD, Pharmacology
Anthony Verity, MD, Neuropathology
Arnold Scheibel, MD, Psychiatry and Anatomy
Anne Morin, PhD, Neuroscience

Undergraduate: *B.S., Biology (with minor in Physics), 1978*
B.S., Chemistry, ACS Certified, 1978
Departments of Chemistry, Biology, and Physics
School of Science and Engineering
Seattle University, Seattle, Washington

Thesis: *"Isolation and Identification of in vitro and in vivo Metabolites of UL-¹⁴C-2,2'-Dichlorobiphenyl from Coho Salmon (Oncorhynchus kisutch)"*

RESEARCH EXPERIENCE:

- Positions Held:* Associate Research Biologist (WOS), 7/04 – present
Developmental Biology Center
School of Biological Sciences
University of California, Irvine
- Visiting Associate Professor, 7/04 - present
Stem Cells and Regeneration Program
The Burnham Institute
La Jolla, California
- Principal Investigator, 5/03 - present
NHLBI Human Embryonic Stem Cell Culture Training Course
National Human Neural Stem Cell Resource
Neuroscience Laboratories
Children's Hospital of Orange County Research Institute
Orange, California
- Director and Senior Scientist, 4/01 - present
National Human Neural Stem Cell Resource
Neuroscience Laboratories
Children's Hospital of Orange County Research Institute
Orange, California
- Chemical Safety Officer, 4/01 - present
Children's Hospital of Orange County Research Institute
Orange, California
- Visiting Assistant Professor, 1/04 - 6/04
Stem Cells and Regeneration Program
The Burnham Institute
La Jolla, California
- Assistant Research Biologist, 7/02 – 6/04
Developmental Biology Center
School of Biological Sciences
University of California, Irvine
- Director, 8/01 – 3/02
Brain and Tissue Bank for Developmental Disorders
Children's Hospital of Orange County Research Institute
Orange, California
- Coordinator and Project Pathologist, 11/96 – 7/01
Brain and Tissue Bank for Developmental Disorders
Children's Hospital of Orange County Research Institute
Orange, California

Assistant Adjunct Professor, 4/92 - 6/93
Department of Neurology
University of California, Irvine

Staff Research Associate, 1/92 - 3/92
Department of Neurology
University of California, Irvine

Research Associate, 4/84 - 12/91
Epilepsy Research Laboratories
Veterans Administration Medical Center
Sepulveda, California

Research Specialist IV, 9/81 - 1/91
Pediatric ICU Research
Childrens Hospital, Los Angeles
Los Angeles, California

Research Assistant, 1/79 - 9/81
Departments of Neuroscience and Psychology
University of California, Los Angeles

Physical Science Aid, 5/75 - 6/78
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
Seattle, Washington

Summary of Activities:

Human in vitro fertilization techniques
Derivation of human embryonic stem cells
Microfluidic analysis of stem cells
Culture of human embryonic stem cells
Gene expression analysis
Derivation and Culture of postnatal human neural stem cells
and glia
Derivation and Culture of human bone marrow and cord
blood mesenchymal stem cells
Derivation and Culture of human fetal neurons and glia
Derivation and Culture of human fibroblasts and myoblasts
Immunocyto- and Immunohistochemistry
Electrophysiology of cultured cells
Case reports - human neurogenetic disease
Neurogenetic diagnostics
Human brain dissection
Human autopsy

Human brain and tissue banking
Cryopreservation
Pharmacokinetic analyses of therapeutic drugs in humans
Pharmacokinetic analyses of experimental drugs in animals
Statistical outcome analysis (cancer and cardiac arrest in humans)
Statistical analysis using computer-based software (SAS, SPSS)
Animal models of neonatal hypoxic-ischemic brain injury
Animal models of cardiac arrest induced brain injury
Animal models of mitochondrial dysfunction-induced brain injury
Animal models of status epilepticus
Drug, xenobiotic, and nutrient metabolism in animals
In vivo neurotransmitter receptor binding
Pharmacotherapy of neurologic disease
Pharmacologic neuroprotection
In vivo physiologic monitoring
Neuropathologic analysis
Animal behavior monitoring
Analytical chemistry

RESEARCH GRANT SUPPORT:

Active:

2005 IIRGA (Loring); 09/01/05 – 08/31/07; Alzheimer's Association, \$30,000
Stem Cells as Delivery Vehicles to Target Amyloid Plaques and Tangles

1 RO1 AG024488-01 (Hagerman); 6/1/05 – 5/31/10; NIA, \$590,318
Fragile X-Associated Tremor Ataxia Syndrome

1 T15 HL074286-01 (Schwartz); 5/1/03 - 4/30/07; NHLBI, \$486,000
Human Embryonic Stem Cell Culture Training Course

No Number (Schwartz); 7/1/02 - 6/30/06; CHOC Foundation, \$300,000
National Human Neural Stem Cell Resource

No Number (Schwartz); 7/1/05 - 6/30/06; CHOC Foundation, \$60,000
Stem Cell Therapy for Lysosomal Storage Disorders

2 T15 HL074286-04 (Schwartz); 5/1/06 - 4/30/09; NHLBI, \$550,800
Human Embryonic Stem Cell Culture Training Course

1 T15HL085028-01 (Loring); 5/1/06 - 4/30/09; NHLBI, \$51,837
Human Embryonic Stem Cell Culture Training Course

Pending:

1 RO1 NS056349-01 (Rasheed); 07/01/06 – 06/30/11; NIH; \$255,731
Identification of Neurogenic signaling proteins in Human neural Stem cells

1 R41 GM078962-01 (Schwartz); 07/01/06 – 06/30/08: \$500,000
Digital Sorting of Differentiated Human Embryonic Stem Cells

1 RO1 NS054208-01 (Terskikh); 12/01/05 – 11/30/10; NIH; \$184,154
In vivo analysis of human brain-derived and ES cell-derived neural precursors

Completed:

3 R01 CA091043-02S1 (Bryant); 12/01/02 - 11/30/05; NCI; \$150,000
Neuronal Transplants as an Organotypic Brain Tumor Model (Consultant)

No Number (Schwartz); 7/1/02 - 6/30/05; CHOC Foundation, \$247,500
Transplantation of Human Neural Stem Cells

02-3 (Schwartz); 7/1/02 - 6/30/04; United Mitochondrial Dis. Found., \$81,574
Electrophysiology of Neural Stem Cells with Mitochondrial Disease

No Number (Schwartz); 7/1/01 - 6/30/02; CHOC Foundation, \$120,000
National Human Neural Stem Cell Resource

N01-HD-8-3284 (Schwartz); 8/1/01 - 3/31/02; NICHD, \$38,407
Brain and Tissue Bank for Developmental Disorders (Subcontract)

No Number (Schwartz); 4/1/01 - 9/30/01; Salk Institute, \$21,232
National Human Neural Stem Cell Resource

N01-HD-8-3284 (Stein); 9/29/96 - 7/31/01; NICHD, \$576,094
Brain and Tissue Bank for Developmental Disorders (Subcontract)

No Number (Wasterlain); 1/1/90 – 3/31/91; Wallace Laboratories, \$160,000
The Effect of Felbamate on Neuronal Injury after in vivo and in vitro Hypoxia/Ischemia

No Number (Wasterlain); 1/1/88 – 12/31/88; Merck Sharp & Dohme, \$74,505
The Effect of MK-801 on Selective Neuronal Necrosis after Cardiac Arrest in the Rat

ACTIVE COLLABORATIONS:

Current Clinical Collaborators:

1. Jose Abdenur, MD, Chief, Division of Metabolic Genetics, Children's Hospital of Orange County, Orange, CA
2. Nick Anas, MD, Chief, Division of Pediatric Intensive Care, Children's Hospital of Orange County, Orange, CA
3. Bruce Barshop, MD, PhD, Co-Director, Biochemical Genetics Laboratory, Department of Pediatrics; Assistant Director, Pediatric Pharmacology Research

- Unit; Associate Clinical Professor, Department of Pediatrics, University of California, San Diego, CA
4. John Cleary, MD, Division of Pulmonology and Neonatology, Children's Hospital of Orange County, Orange, CA
 5. Dawn Darling, MD, Assistant Clinical Professor, Division of Neonatology, School of Medicine, University of California, San Diego, CA
 6. Gregory Evans, MD, Professor & Chief/Division of Plastic Surgery -- Professor of Surgery, Center for Biomedical Engineering, University of California, Irvine
 7. Sidney Gospe, MD, Sarkowsky Professor and Division Head, Pediatric Neurology, Departments of Neurology and Pediatrics, School of Medicine, University of Washington, Seattle, WA
 8. Claudia Greco, MD, Associate Physician, Department of Pathology (Neuropathology), School of Medicine, University of California, Davis, CA
 9. Rick Harrison, MD, Associate Professor of Pediatrics and Co-Director, Pediatric Intensive Care Unit, Children's Hospital, School of Medicine, University of California, Los Angeles, CA
 10. Thomas Heinz, MD, Chairman, Department of Pathology, Saint Joseph Hospital and Children's Hospital of Orange County, Orange, CA
 11. Kenneth Kaye, MD, Medical Director, Blood Bank and Tissue Banking, Mission Hospital and Children's Hospital at Mission, Mission Viejo, CA
 12. Robert Naviaux, MD, PhD, Assistant Professor In Residence, Pediatrics, Biochemical Genetics and Metabolism; Co-director, The Mitochondrial and Metabolic Disease Center (MMDC); Co-director, The Molecular Diagnostic Laboratory, MMDC, School of Medicine, University of California, San Diego, CA
 13. Steven Romansky, MD, Clinical Professor of Pathology, College of Medicine, University of California, Irvine; Pathologist, Long Beach Memorial Medical Center
 14. Robert Steiner, MD, Associate Professor of Pediatrics & Molecular and Medical Genetics, Head: Division of Metabolism, Oregon Health & Sciences University, Portland, OR

Current Research Collaborators:

1. Hava Avraham, PhD, Associate Professor of Medicine, Beth Israel Deaconess Medical Center, Harvard University, Boston, MA *"Molecular biology of brain specific nuclear restricted protein"*
2. Steven Back, MD, PhD, Assistant Professor, Department of Pediatrics (Neurology), Oregon Health and Sciences University, Portland, OR *"Transplantation of ovine stem cells in a sheep model of periventricular leukomalacia"*
3. Peter Bryant, PhD, Professor and Director of the Molecular Biology, Genetics and Biochemistry Training Program, School of Biological Sciences, University of California, Irvine, CA *"Asymmetric cell division in human neural stem cells"*
4. Melissa Carpenter, PhD, Principal Investigator, Stem Cell Biology and Regenerative Medicine, The Robarts Research Institute, London, Ontario, Canada *"Determination of epigenetic differences in human embryonic stem cell lines"*

5. K.V. Chalam, MD, PhD, Assistant Professor, Department of Ophthalmology, University of Florida, Jacksonville, Florida *Differentiation of human neural stem cells into photoreceptors*
6. Jerold Chun, MD, PhD, Professor, Department of Molecular Biology, The Helen L. Dorris Child & Adolescent Neuropsychiatric Disorder Institute, The Scripps Research Institute, La Jolla, CA *Aneuploidies in the Developing Nervous System*
7. Stephen J. Crocker, Ph.D., Department of Neuropharmacology, The Scripps Research Institute, La Jolla, CA *Temporin Expression as a Regulator of Oligodendrocyte Differentiation*
8. Jean de Vellis, PhD, Director, Mental Retardation Research Center, UCLA, Los Angeles, CA *Generation of oligodendrocytes from human neural stem cells*
9. Steven Dewhurst, PhD, Professor, Department of Microbiology and Immunology, University of Rochester Medical Center, Rochester, New York *HIV infection of human neural stem cells*
10. Lisa Flanagan, PhD, Assistant Research Biologist, Department of Pathology, College of Medicine, University of California, Irvine, Irvine, CA *Participation of the extracellular matrix in the proliferation, migration, and differentiation of human neural stem cells*
11. Lee Fortunato, PhD, Assistant Professor, University of Idaho, Department of Microbiology, Molecular Biology and Biochemistry, Moscow, ID *Interaction of Human Cytomegalovirus with Cells in the Developing Fetal Brain*
12. Vittorio Gallo, PhD, Director, Center for Neuroscience Research, Children's National Medical Center, Washington, DC *Transplantation of human neural stem cells in animal models of stroke*
13. Paul Hagerman, MD, PhD, Professor, Department of Biological Chemistry, School of Medicine, University of California, Davis *Molecular mechanisms of FMRP dysregulation in Fragile X and FXTAS*
14. Carolyn Horrocks, PhD, Director of Cell Development, NeuroNova AB, Stockholm, Sweden *Generation of clinically useful neural stem cells from human brain biopsy tissue*
15. Samie Jaffrey, MD, PhD, Assistant Professor, Department of Pharmacology, Cornell University, New York, New York *Alterations of mRNA transcription in Fragile X*
16. Noo Li Jeon, PhD, Assistant Professor, Department of Chemical Engineering and Materials Sciences, The Henry Samueli School of Engineering, University of California, Irvine, CA *Human neural stem cell growth and differentiation in a gradient-generating microfluidic device*
17. Michael Joiner, PhD, Professor, Department of Radiation Oncology, Wayne State University, Detroit, MI *The radiation response of human neural stem cells*
18. Henry J. Klassen, MD, PhD, Senior Scientist, Stem Cell Research, Neuroscience Laboratories, Children's Hospital of Orange County Research Institute *Transplantation of retinal and neural stem cells in retinal disease and injury*
19. Abraham Lee, PhD, Professor, Department of Biomedical Engineering, The Henry Samueli School of Engineering, University of California, Irvine, CA *Characterization of neural cells for cell sorting using flow induced electrical admittance spectra in microfluidics*

20. Jeanne Loring, PhD, Adjunct Associate Professor, Stem Cells and Regeneration Program, The Burnham Institute, La Jolla, CA *"Gene expression analysis in human stem cells"*
21. Franz-Josef Muller, MD, PhD, Germany *"Pro- and anti-migratory chemokines in the development of the nervous system"*
22. Karin Narfström, PhD, Department of Veterinary Medicine and Surgery, University of Missouri-Columbia, MO *"Feline neural stem cells in a cat model of retinal degeneration"*
23. Diane K. O'Dowd, PhD, Professor, Departments of Anatomy and Neurobiology and Developmental and Cell Biology, College of Medicine and School of Biological Sciences, University of California, Irvine, CA *"Electrophysiology in human neural stem cells"*
24. Malla Padidam, PhD, Director, Functional Genomics, RheoGene, Inc., Norristown, PA *"Adenovirus transduction of human neural stem cells"*
25. Theo Palmer, PhD, Assistant Professor, Department of Neurosurgery, Stanford University School of Medicine, Stanford, CA *"Participation of the NOTCH pathway in the differentiation of human neural stem cells"*
26. Roger Prather, PhD, Professor, Department of Veterinary Medicine, University of Missouri, MO *"Porcine neural stem cells from the transgenic pig"*
27. Stevens K. Rehen, PhD, Associate Professor, Federal University of Rio de Janeiro, Brazil *"Aneuploidies in human embryonic and neural stem cells"*
28. Gerald Schatten, PhD, Director, Pittsburgh Development Center, Magee-Women's Hospital, Pittsburgh, PA *"Neural stem cells from the non-human primate"*
29. Stuart Schreiber, PhD, Chair, Department of Chemistry and Chemical Biology, The Broad Institute, Harvard University, Boston, MA *"High-throughput small molecule screening with human neural stem cells"*
30. Lamy Shihabuddin, PhD, Section Leader, Neural Regeneration, Genzyme Pharmaceuticals, Framingham, MA *"Transplantation of human neural stem cells in animal models of mucopolysaccharidosis"*
31. Evan Snyder, MD, PhD, Director, Stem Cells and Regeneration Program, The Burnham Institute, La Jolla, CA *"Transplantation of human neural stem cells in animal models of gangliosidosis"*
32. Flora Tassone, PhD, Assistant Research Biochemist, Department of Biological Chemistry, School of Medicine, University of California, Davis, CA *"Molecular biology of FMRP dysregulation in Fragile X syndrome and FXTAS"*
33. Alexey Terskikh, PhD, Assistant Professor, Stem Cells and Regeneration Program, The Burnham Institute, La Jolla, CA *"In vitro and in vivo comparisons of human neural stem cells and neuralized human embryonic stem cells"*
34. Douglas C. Wallace, PhD, Director, Center for Molecular and Mitochondrial Medicine and Genetics, University of California, Irvine *"Application of cybrid technology to genomic replacement in human neural and embryonic stem cells"*
35. Michael Young, PhD, Assistant Professor, department of Ophthalmology, Harvard medical School, Boston, MA *"Retinal and neural stem cells in the treatment of large animal models of retinal disease and injury"*
36. Kyuson Yun, PhD, Assistant Professor, Dartmouth University Medical Center, Lebanon, New Hampshire *"Transcription factors in neural stem cell tumorigenesis"*

37. W. Michael Zawada, PhD, Associate Professor, Clinical Pharmacology and Toxicology, University of Colorado Health Sciences Center, Denver, CO *"Effect of reactive oxygen species on the immunology of human neural stem cells"*

OTHER EXPERIENCE:

Director, hESC Culture Training Course, March 2006
Children's Hospital of Orange County
Orange, California

Exhibitor, November, 2005
Human Embryonic Stem Cell Culture Training Courses
Society for Neuroscience
Washington, DC

Member, 2005
Scientific Advisory Board
[The Three Little Angels Foundation](#)
Santa Barbara, California

Panel Member, November, 2005
Southern California Association of Research Administrators
Children's Hospital of Orange County
Orange, California

Member, NIH Study Section, October, 2005
National Institutes of Health, NINDS
NCF
Neurogenesis and Cell Fate

Organizer, Moderator, and Speaker, California Tissue Engineering Meeting, September, 2005
University of California, Irvine
Irvine, California

Panel Member, June 2005
Annual NIH Human Embryonic Stem Cell Research Meeting for R24 Infrastructure & T15 Training Course Grantees
National Institutes of Health, NHLBI
San Francisco, California

Director, hESC Culture Training Course, April 2005
Children's Hospital of Orange County
Orange, California

Panel Member, May 2005
Understanding the Promise and Problems of Stem Cells

University of California, Irvine
Irvine, California

Exhibitor, November, 2004
Human Embryonic Stem Cell Culture Training Courses
Society for Neuroscience
San Diego, California

Member, 2004
Scientific Advisory Board
The Stem Cell Community
<http://www.stemcellcommunity.org>
La Jolla, California

Member, 2004 - present
Stem Cell Research Steering Committee
University of California, Irvine
Irvine, California

Member, 2004 – present
Center for Stem Cell Transplantation
Children's Hospital of Orange County
Orange, California

Moderator and Panel Discussant, June 2004
Stem Cells and Fragile X
International Fragile X Symposium
Washington, DC

Panel Member, June 2004
Annual NIH Human Embryonic Stem Cell Research Meeting
for R24 Infrastructure & T15 Training Course Grantees
National Institutes of Health, NHLBI
Washington, DC

Organizer, Moderator, and Panel Discussant, May 2004
Stem Cells: Science, Ethics, and Politics in Dialogue
UCI/CHOC Research Institute
Irvine, California

Member, NIH Study Section, July 2004
National Institutes of Health, NIA
ZAG1 ZIJ-7 01
Biology of Stem Cells in Aging

Director, hESC Culture Training Course, April 2004
Children's Hospital of Orange County and

The Burnham Institute, La Jolla, CA

Member, 2004 - present
Institutional Bioethics Committee
Children's Hospital of Orange County
Orange, California

Member, NIH Study Section, November 2003
National Institutes of Health
ZRG1 SSS-U(10) B
Small Business Innovation &
Bioengineering Research Grants

Exhibitor, November, 2003
Human Embryonic Stem Cell Culture Training Courses
Society for Neuroscience
New Orleans, Louisiana

Member, NIH Study Section, July 2003
National Institutes of Health
ZRG1 SSS-U(40) P
Biomedical Technology Resource Grant

Organizer and Chair, May 2003
Laboratory Techniques and Protocols for Human Neural
Stem Cells
UCI/CHOC Research Institute
Orange, California

Member, 2003 - present
Institutional Animal Care and Use Committee
Children's Hospital of Orange County
Orange, California

Panel Member, 2002
International Workshop in Brain Banking
National Institute of Neurological Disorders and Stroke
"Human Neural Stem Cell Banking"

Founder, 2002
National Human Neural Stem Cell Resource
Children's Hospital of Orange County
Orange, California

Organizer and Chair, November 2001
CHOC/UCI Workshop on Neural Stem Cells
Children's Hospital of Orange County

Orange, California

Member, 2001 - present
Facilities/Equipment Committee
Children's Hospital of Orange County
Orange, California

Member, 2001 - present
IRB Scientific Review Board
Children's Hospital of Orange County
Orange, California

Member, 2000 - present
Scientific Advisory and Review Board
Children's Hospital of Orange County
Orange, California

Member, 1999 - present
Research Safety Committee
Children's Hospital of Orange County
Orange, California

Member, 1998 – 2002
Neurology Search Committee
Children's Hospital of Orange County
Orange, California

Member, Faculty Interview Committee, 1992-1993
Office of Admissions
College of Medicine
University of California, Irvine

Course in Pharmacokinetics, Spring, 1989
Biomedical Simulations Resource
School of Engineering
University of Southern California
*"Advanced Methods of Pharmacokinetic and
Pharmacodynamic Systems Analysis"*

Course in On-line MEDLINE Searching, Fall, 1987
Pacific Southwest Regional Medical Library Service
Biomedical Library
University of California, Los Angeles
"National Library of Medicine Initial On-Line Training"

Mentor, 1986 – present
Research and Medical Education Programs

Children's Hospital, Los Angeles, Los Angeles, California
 Memorial Miller Children's Hospital, Long Beach, California
 Children's Hospital of Orange County, Orange, California
 University of California, Irvine

Mentored Medical/Research Scientists:

Current:

Shengwen Li, PhD, Senior Scientist, CHOC
 Tomas Dolezal, PhD, Post-Doctoral Student, UCI
 Stanka Derzic, PhD, Scientist, CHOC
 Hailing Su, PhD, Post-Doctoral Student, UCI
 Hubert Nethercott, BS, Research Assistant, CHOC

Past: (current positions also listed)

Tannin Fuja, BS, Graduate Student, UCI
 Medical Student, University of Iowa
 Boback Zaieian, BS, Research Assistant, CHOC
 Medical Student, UCI
 Ivan Kirov, BS, Research Assistant, CHOC
 Graduate Student, NYU
 Rick Harrison, M.D., PICU Fellow, CHLA
 Co-Director, PICU, UCLA
 Sana Al-Jundi, M.D., PICU Fellow, CHLA
 Pediatric Intensivist, CHOC
 Daniel Fisher, M.D., PICU Fellow, MMCH
 Associate Professor, Connecticut Children's MC
 Gerardo Reyes, M.D., PICU Fellow, CHLA
 Clinical Asst Professor, U Illinois
 Mark Welch, M.S., Neurology Associate, CHOC
 Psychiatry Resident, Loma Linda University
 Maher Eldadah, M.D., PICU Fellow, CHLA
 Medical Director, PICU, Hillcrest MC
 Yacov Sivan, M.D., PICU Fellow, CHLA
 Director, PICU, Dana Children's Hospital
 Ronald Gottesman, M.D., PICU Fellow, CHLA
 Director, Ped CCM, Montreal Children's Hospital

Students Trained during the hESC Training Courses

| <u>Student (nationality)/PI</u> | <u>Title</u> | <u>Institution</u> | <u>City, State COUNTRY</u> |
|--|-------------------------|--|---------------------------------------|
| Sharona Even-Ram, PhD (Israel)/ Kenneth Yamada, PhD | Post-Doctoral Fellow | National Institutes of Health- NIDCR | Bethesda, MD USA |
| Dawn Darling, MD (England)/ Dawn Darling, MD | Neonatologist | University of California, San Diego | San Diego, CA USA |
| Hao Wu, BS (China)/ Yi Sun, PhD | Graduate Student | University of California, Los Angeles | Los Angeles, CA USA |
| Sun-Kyung Oh, PhD (Korea)/ Shin-Yong Moon, MD | Post-Doctoral Fellow | Institute of Reproductive Medicine | Seoul KOREA |
| Shuxian Jiang, PhD (USA)/ | Post-Doctoral | Harvard | Boston, MA USA |

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|---|--------------------------|---|-------------------------|
| Hava Avraham, PhD | Fellow | | |
| Chu Chih Shih, PhD (USA)/ Chu Chih Shih, PhD | Professor | City of Hope | Duarte, CA USA |
| Manjiri Bakre, PhD (India)/ Lawrence W Stanton, PhD | Research Scientist | Genome Institute of Singapore | Singapore SINGAPORE |
| Soumya Koppikar, BS (India)/ Satish Totey, PhD | Research Fellow | Reliance Life Sciences | Mumbai INDIA |
| Brandi Ormerod, PhD (Canada)/ Theo Palmer, PhD | Post-Doctoral Fellow | Stanford University | Stanford, CA USA |
| Lisa Flanagan, PhD (USA)/ Michael Selsted, MD, PhD | Post-Doctoral Fellow | University of California, Irvine | Irvine, CA USA |
| Malla Padidam, PhD (USA)/ Malla Padidam, PhD | Senior Scientist | Rheogene | Norristown, PA USA |
| Akira Wada, BS (USA)/ Stuart Lipton, MD, PhD | Laboratory Technician | Burnham Institute | La Jolla, CA USA |
| David Brick, PhD (Irish)/ Steven L. Wechsler, PhD | Post-Doctoral Fellow | University of California, Irvine | Irvine, CA USA |
| KV Chalam, MD (USA)/ KV Chalam, MD | Ophthalmol. | University of Florida | Jacksonville, FL USA |
| Dah-Ching Ding, MD (Taiwan)/ Shinn-Zong Lin, MD | Obstetrician | Tsu Chi Medical Center | Hualien TAIWAN |
| Hua Liu, MD (China)/ Tong Cao, MD | Research Assistant | National University of Singapore | Singapore SINGAPORE |
| James Pickel, PhD (USA)/ James Pickel, PhD | Staff Scientist | National Institutes of Health/NIMH | Bethesda, MD USA |
| Suparna Sanyal, PhD (Canada)/ BDBiosciences | Research Scientist | BD Biosciences | Bedford, MA USA |
| LeiQian Tai, PharmD (USA)/ Diane Nugent, MD | Scientist | Children's Hospital of Orange County | Orange, CA USA |
| Riccardo Talevi, PhD (Italy)/ Riccardo Talevi, PhD | Senior Scientist | University of Naples | Naples ITALY |
| Ching-Hua Wang, MD, PhD (USA)/ Ching-Hua Wang, MD, PhD | Professor | California State University, Channel Islands | Camarillo, CA USA |
| Laura Perin, PhD (Italy)/ David Warburton, PhD | Senior Scientist | University of Southern California | Los Angeles, CA USA |
| Lorene Ward, BS (USA)/ KV Chalam, MD | Laboratory Technician | University of Florida | Jacksonville, FL USA |
| Kyuson Yun, PhD (USA)/ Mark Israel, PhD | Instructor | Dartmouth University | Boston, MA USA |
| Stevens Rehen, PhD (Brazil)/ Jerold Chun, MD, PhD | Post-Doctoral Fellow | Scripps Research Institute | La Jolla, CA USA |
| Sailesh Gopalakrishna-Pillai, PhD/ Linda Iverson, PhD | Post-Doctoral Fellow | City of Hope | Duarte, CA USA |
| Elena Nedelcu, MD/ Kenneth Dorshkind, PhD | Fellow | Univeristy of California, Los Angeles | Los Angeles, CA USA |
| Janet Paluh, PhD/ Janet Paluh, PhD | Assistant Professor | Boston College | Boston, MA USA |
| Tobias Raabe, PhD/ James C. Alwine, PhD | Technical Director | University of Pennsylvania | Philadelphia, PA USA |
| Sabina Luchetti, MD, PhD/ Aileen Anderson, PhD | Post-Doctoral Fellow | University of California, Irvine | Irvine, CA USA |

| | | | |
|---|------------------------|--------------------------------------|-----------------------------|
| Geoffrey Sargent, PhD/ Geoffrey Sargent, PhD | Principal Investigator | Advanced Cell Technology | Alameda, CA USA |
| Thorsten Schlaeger, PhD/ Thorsten Schlaeger, PhD | Head, ESC Core | Children's Hospital of Boston | Boston, MA USA |
| Hema Vaidyanathan, PhD/ David Feldheim, PhD | Post-Doctoral Fellow | University of California, Santa Cruz | Santa Cruz, CA USA |
| Seda Vatansever, PhD/ Seda Vatansever, PhD | Principal Investigator | Celal Bayar University | Manisa TURKEY |
| Ji Yeon Kim, MD, PhD/ Michael Young, PhD | Post-Doctoral Fellow | Schepen's Eye Research Institute. | Boston, MA USA |
| Hal Nguyen, PhD/ Aileen Anderson, PhD | Post-Doctoral Fellow | University of California, Irvine | Irvine, CA USA |
| Damaso Sadi, BS/ Ivar Mendez, MD | Research Associate | Dalhousie University | Halifax, Nova Scotia CANADA |
| Steven Marchenko, BS/ Lisa Flanagan, PhD | Research Associate | University of California, Irvine | Irvine, CA USA |
| Amruthesh Shivachar, PhD/ Amruthesh Shivachar, PhD | Assistant Professor | Texas Southern University | Houston, TX USA |
| Christine Scheller, BA (USA)/ Free-Lance | Science Writer | Southern California | Costa Mesa ,CA USA |
| Jennie Dusheck, MS (USA)/ Free-Lance | Science Writer | Northern California | Santa Cruz, CA USA |

Peer-Reviewer:

European Journal of Pharmacology
 Pediatric Research
 Neurology
 Clinical Chemistry
 Stem Cells
 Journal of Neuroscience Research
 Brain Research Bulletin
 Current Stem Cell Research and Therapy
 STAR Research Program
 NLM Foundation Autism Research Program
 Neurological Foundation of New Zealand

Senior Coder, 5/80-10/80

Brain Information Service
 Brain Research Institute
 School of Medicine
 University of California, Los Angeles

Teaching Assistant, 9/76-6/78

Organic Chemistry
 Department of Chemistry
 Seattle University

Teaching Assistant, 9/76-6/78

Analytical Chemistry
Department of Chemistry
Seattle University

HONORS:

Nomination for Counselor, Mitochondrial Medicine Society,
2002
First Prize - UCLA Neuroscience Student Poster
Competition - 1988
Honorable Mention- National Science Foundation
Graduate Fellowship - 1979
National Research Service Awards, 1979-1983
Dean's List
Alpha Epsilon Delta - The Premedical Honor Society
Chemistry Club of Seattle University
President of Alpha Epsilon Delta, Seattle University Chapter
Vice-president of the Chemistry Club - Seattle University

MEMBERSHIPS:

International Society for Stem Cell Research
American Society of Reproductive Medicine
American Society for Human Genetics
Society for Inherited Metabolic Disorders
Society for Mitochondrial Medicine
Society for Developmental Biology
Society for Neuroscience

OTHER ACTIVITIES:

Laboratory Design Consultant, 8/96 – 12/96
Neurobiology Laboratory
Children's Hospital of Orange County
Orange, California

Sunday School Teacher, 6/05 – present
Mariner's Church
Newport Beach, California

Sole Proprietor, 7/93 - present
Schwartz Renovation
Irvine, California

California Licensed General Contractor, #B688575 (inactive)

Partner, 1/92 - present
Gonzalez Investments, LLC
Washington, DC

Chair, Buildings and Grounds, 1/95 – 12/01
Saint Andrew's Episcopal Church
Irvine, California

People's Warden, 1/99 – 12/01
Saint Andrew's Episcopal Church
Irvine, California

Board Member, 1/99 – 12/01
Saint Andrew's Episcopal Church Children's Center
Irvine, California

Project Manager, 1/94 - 12/94
Mobile Lead Reclamation Facility
Western Environmental Science and Technology
Coto de Caza, California

Board of Directors, 1/82 - 12/90
Column Engineering, Inc.
Ontario, California

Laboratory Design Consultant, 9/82-12/82
Pediatric ICU Research Laboratory
Children's Hospital, Los Angeles
Los Angeles, California

Government Representative, On-Line, Print, Radio, and Television Media Interviews and Philanthropic Presentations

April 2006, Orange County Register, "Reader Rebuttal: Led Astray by Quackery", Philip H. Schwartz (print)

March 2006, KFWB Radio, Laurie Kelman (radio)

February 2006, Lansing State Journal, "Stem Cell Research", Jeremy Steele (print)

January 2006, Center for Jewish Education, Corona del Mar, CA (philanthropic)

November 2005, Cinderella Guild, Costa Mesa, CA (philanthropic)

September 2005, Christianity Today, "Ethics Interrupted", Christine Scheller (print)

August 2005, The Roosters (philanthropic)

July 2005, Orange County Register, "Faith in Science", Gary Robbins (print)

July 2005, Frontline. "The Stem of Hope", Vijaya Swaminath (on-line)

June 2005, private conversation, Senator Tom Harkin (US government)

April 2005, Science News, "Full Stem Ahead", Christen Brownlee (print)

May 2005, Orange County Register, "House passes Stem Cell Bill" (print)

May 2005, National Public Radio, Lance Orozco (radio)

May 2005, KABC Radio (radio)

February 2005, San Diego Business Journal, "Stem Cell Science: Hospitals look to Possibilities", Hilary Potkewitz (print)

July 2005, Cable Network, "Alternative Focus", Bruce Crawford (television)

August 2005, Cable Network, "ACRU", Bruce Crawford (television)

2005, Channel 4 News, "Evening News", Vicki Vargas (television)

2004, Channel 4 News, "Evening News", Vicki Vargas (television)

2003, Channel 4 News, "Evening News", Vicki Vargas (television)

June 2003, Milwaukee Journal Sentinel, "UW makes Stem Cell Progress", Kimm Groshong (print)

July 2004, Orange County Register, "Commentary: Stem Cell Scientists are in Short Supply", Philip H. Schwartz (print)

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MANUSCRIPTS – in preparation:

- Bong Geun Chung, Franz-Josef Mueller, Bobak Mosadegh, Jean Pyo Lee, Josef P. Aldenhoff, Evan Y. Snyder, Noo Li Jeon and Philip H. Schwartz "Human Neural Stem Cell Migration in a Microfluidic Chemotaxis Chamber"
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1. Schwartz, P.H., editor, The Biochemistry of Stem Cells, McGraw-Hill
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 53. Yang, C., Schwartz, P.H., Hattori, H., Fujikawa, D.G., Morin, A.M., and Wasterlain, C.G. "*The Combination of Dextromethorphan and Phenytoin has Potent Anti-Ischemic Properties*" Soc. Neurosci. Abstr. 15 (Part 1):43 (1989).
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 56. Eldadah, M.K., Schwartz, P.H., and Newth, C.J.L. "*The Pharmacokinetics of Dopamine in Infants and Children*" *Pediatr. Res.* 23:35A (1989).
 57. Yang, C.X., Morin, A.M., Fujikawa, D.G., Schwartz, P.H., Hattori, H., and Wasterlain, C.G. "*Ontogenesis of NMDA-Induced Excitotoxicity*" *Neurology* 39 (Suppl. 1):373 (1989).
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 59. Hattori, H., Morin, A.M., Schwartz, P.H., and Wasterlain, C.G. "*Post-Hypoxic Treatment with MK-801 reduces Hypoxic-Ischemic Neuronal Damage in the Neonatal Rat*" Soc. Neurosci. Abstr. 14:1118 (1988).
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 61. Schwartz, P.H., Gottesman, R.D., Dwyer, B.E., and Wasterlain, C.G.: "*The Development and Distribution of Brain Damage after Cardiac Arrest in the Rat*" Soc. Neurosci. Abstr. 13:1497 (1987).
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 64. Schwartz, P.H., Gottesman, R.D., Dwyer, B.E., and Wasterlain, C.G.: "*Ten*

- Minutes of Cardiac Arrest in the Rat*" Soc. Neurosci. Abstr. 12:63 (1986).
65. Schwartz, P.H., Gottesman, R.D., Wasterlain, C.G., Gilles, F.H., Dwyer, B.E., and Allman F.D.: "A Model of Ischemic Brain Damage in the Rat after Cardiac Arrest" *Pediatr. Res.* 20:467A (1986).
 66. Schwartz, P.H., Wasterlain, C.G., Dwyer, B.E., Arcinue, E.L.: "Altered Protein and Amino Acid Metabolism in an Animal Model of Reye-like Syndrome" Soc. Neurosci. Abstr. 11:1264 (1985).
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 68. Schwartz, P.H., Hutchins, S.W., Cheng, M.H., Arcinue, E.L., and Lipsey, A.I.: "Simultaneous Determination of Plasma Dobutamine (Dobutrex), Dopamine, Isoproterenol, and Epinephrine by Gradient, Reverse-Phase, HPLC with Electrochemical Detection" *Clin. Chem.* 29(6):1031 (1984).
 69. Schwartz, P.H., Arcinue, E.L., Mitchell, R.A., Sehgal, S.S., and Sinniah, D.: "A Time Course Study of an Animal Model of Reye's Syndrome. I. Hepatic Enzyme and Histologic Parameters" *Reye's Syndrome IV*, Pollack, J.D., (ed.) Grune and Stratton, New York, (1985).
 70. Mitchell, R.A., Arcinue, E.L., Sinniah, D., Ram, M.L., and Schwartz, P.H.: "Production of Reye-like Mitochondrial Enzyme Deficits in the Rat by Margosa Oil Treatment" *Reye's Syndrome IV*, Pollack, J.D., (ed.) Grune and Stratton, New York (1985).
 71. Sinniah, D., Arcinue, E., Mitchell, R. and Schwartz, P.: "A Possible Animal Model of Reye's Syndrome using Margosa Oil" *Pediatr. Res.* 17(5):295A (1983).
 72. Sinniah, D., Arcinue, E., Mitchell, R. and Schwartz, P.: "A Possible Animal Model of Reye's Syndrome using Margosa Oil" *Clin. Res.* 31(2): A125 (1983).
 73. Ellison, G., Morris, W. and Schwartz, P.: "Continuous Amphetamines: Switch from Stereotypical Behaviors are Correlated with Changes in Caudate but not Accumbens Dopamine Receptors" Soc. Neurosci. Abstr. 7:209 (1981).

SITE VISIT PRESENTATIONS:

ISSCR Meeting Headquarters, NIH, 6/06, (P.H. Schwartz, PI)
"Human Embryonic Stem Cell Culture Training Course"

ISSCR Meeting Headquarters, NIH, 6/05, (P.H. Schwartz, PI)
"Human Embryonic Stem Cell Culture Training Course"

National Institutes of Health, NIH, 6/04, (P.H. Schwartz, PI)
"Human Embryonic Stem Cell Culture Training Course"

Children's Hospital of Orange County, NINDS, 7/02, (P.H. Schwartz, PI)
"National Human Neural Stem Cell Resource"

University of Miami, NICHD, 8/01, (H. R. Zielke and C. K. Petito, PIs)
"Brain and Tissue Banks for Developmental Disorders"

Eastern Maine Medical Center, NICHD, 5/01, (H. R. Zielke and C. K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

University of Miami, NICHD, 2/01, (H. R. Zielke and C. K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

University of Maryland, NICHD, 5/00, (H. R. Zielke and C. K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

Children's Hospital of Orange County, NICHD, 11/99, (H. R. Zielke and C.K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

University of Maryland, NICHD, 5/99, (H. R. Zielke and C. K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

University of Maryland, NICHD, 6/97, (H. R. Zielke and C. K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

University of Miami, NICHD, 2/97, (H. R. Zielke and C. K. Petito, Pls)
"Brain and Tissue Banks for Developmental Disorders"

PRESENTATIONS:

1. 3rd Annual Meeting of the International Society for Stem Cell Research, (2005), San Francisco, California - *"Human Embryonic Stem Cell Culture Training Courses"*
2. Keystone Symposium – Molecular Regulation of Stem Cells, (2005), Banff, Alberta, Canada – *"Human Embryonic Stem Cell Culture Training Courses"*
3. 34th Annual Meeting of the Society for Neuroscience (2004), San Diego, California - *"Differences among neural progenitor cell cultures determined by gene expression analysis"*
4. 9th International Fragile X Conference (2004) *"Neural Progenitor Cells from a Patient with Fragile X"*
5. 33rd Annual Meeting of the Society for Neuroscience (2003), New Orleans, Louisiana - *"Banking Human Neural Stem Cells from Post-Mortem Brain "*
6. 1st Annual Meeting of the International Society for Stem Cell Research, (2003), Washington, DC - *"Characterization of Post-Mortem Human Neural Stem Cells"*
7. 34th Annual Meeting of the American Society for Neurochemistry, (2003), Newport Beach, California - *"Characterization of Post-Mortem Human Neural Stem Cells"*
8. Keystone Symposium - From Stem Cells to Therapy, (2003), Steamboat Springs, Colorado - *"Characterization of Post-Mortem Human Neural Stem Cells"*
9. United Mitochondrial Disease Foundation Symposium, (2002), Dallas, Texas – *Neural Stem Cell Electrophysiology in Mitochondrial Disease – Proof of Concept"*
10. Annual Meeting of the Society for Inherited Metabolic Disorders (2002), Asilomar, California - *"Neural Stem Cells from Autopsied Patients with Neurogenetic Disease"*

11. 30th Annual Meeting of the Society for Neuroscience (2000), New Orleans, Louisiana - *"The Utility of Post-Mortem Human Tissue for Research in Developmental Disorders of the Nervous System"*
12. 30th Annual Meeting of the Society for Neuroscience (2000), New Orleans, Louisiana - *"Isolation and Expansion of Neural Precursors from Postnatal and Adult Human Brain"*
13. 52nd Annual Meeting of the American Academy of Neurology (2000), San Diego, California - *"Harvest and Cryopreservation of Neural Precursors from Post-Natal, Post-Mortem Human Brain"*
14. 49th Annual Meeting of the American Society for Human Genetics (1999), San Francisco, California - *"Malignant Hyperthermia (MH), and Rhabdomyolysis (RM): A New Phenotype of Carnitine Palmitoyl Transferase Type II (CPTII) Deficiency?"*
15. 49th Annual Meeting of the American Society for Human Genetics (1999), San Francisco, California - *"Short Chain Acyl-CoA Dehydrogenase Deficiency (SCADD) - An Under-Reported Disorder?"*
16. 51st Annual Meeting of the American Academy of Neurology (1999), Toronto, Ontario - *"Neuronal Cell Cultures from Cryopreserved Fetal Tissue with Neurogenetic Disease"*
17. Annual Meeting of the Society for Inherited Metabolic Disorders (1999), Lake Lanier, Georgia - *"Ethylmalonic Encephalopathy with Seizures and Renal Failure"*
18. 22nd Annual Meeting of the Society for Neuroscience (1992), Anaheim, California - *"Behavioral, Physiological, and Pharmacological Aspects of Stimulus-Induced Post-Anoxic Myoclonus in the Rat"*
19. 44th Annual Meeting of the American Academy of Neurology, (1992), San Diego, California - *"In Vivo Activation of NMDA Receptors during Seizures measured by MK-801 Binding"*
20. 21st Annual Meeting of the Society for Neuroscience (1991), New Orleans, Louisiana - *"In Vivo Activation of NMDA Receptors during and after Ischemia measured by In Vivo ³H-MK-801 Binding"*
21. 20th Annual Meeting of the Society for Neuroscience (1990), St. Louis, Missouri - *"A Post-Hypoxic Model of Myoclonus in the Rat"*
22. 20th Annual Meeting of the Society for Neuroscience (1990), St. Louis, Missouri - *"Felbamate reduces Neonatal Hypoxic-Ischemic Brain Damage in the Rat"*
23. 1st International Congress of Movement Disorders, Workshop on Animal Models of Myoclonus (1990), Washington, D.C. - *"A Post-Hypoxic Model of Myoclonus in the Rat"*
24. 74th Annual Meeting of the Federation of American Societies for Experimental Biology (1990), Washington, D.C. - *"Brain Concentrations of Free MK-801 reflect Serum Concentrations rather than Total Brain Concentrations"*
25. 74th Annual Meeting of the Federation of American Societies for Experimental Biology (1990), Washington, D.C. - *"Interactive Pharmacokinetics of Dopamine and Dobutamine in Pediatric Intensive Care Unit (PICU) Patients"*
26. 59th Annual Meeting of the Society for Pediatric Research (1990), Anaheim, California - *"Competitive Dispositional Processes may account for Non-Linear Catecholamine Pharmacokinetics and Pharmacodynamics"*
27. 19th Annual Meeting of the Society for Neuroscience (1989), Phoenix, Arizona - *"The Effect of Hypoxia/Ischemia on the Disposition of MK-801 in the Neonatal"*

- Rat*"
28. 41st Annual Meeting of the American Academy of Neurology (1989), Chicago, Illinois - *"Cardiac Arrest Alters the Metabolism of MK-801 in the Rat"*
 29. 14th Annual Meeting of SAS Users Group International (1989), San Francisco, California - *"The Application of Base SAS[®], SAS/STAT[®], and SAS/GRAPH[®] Software to the Analysis and Presentation of Pharmacokinetic Data"*
 30. 17th Annual Meeting of the Society for Neuroscience (1987), New Orleans, Louisiana - *"The Development and Distribution of Brain Damage after Cardiac Arrest in the Rat."*
 31. 16th Annual Meeting of the Society for Neuroscience (1986), Washington, D.C. - *"Ten Minutes of Cardiac Arrest in the Rat"*
 32. 15th Annual Meeting of the Society for Neuroscience (1985), Dallas, Texas - *"Altered Protein and Amino Acid Metabolism in an Animal Model of a Reye-like Syndrome"*
 33. 69th Annual Meeting of the Federation of American Societies for Experimental Biology (1985), Anaheim, California - *"Production of Reye-like Mitochondrial Hepatic Enzyme Deficits in the Rat by Margosa Oil Treatment"*
 34. 36th National Meeting of the American Association for Clinical Chemistry (1984), Washington, D.C. - *"Simultaneous Determination of Plasma Dobutamine (Dobutrex), Dopamine, Isoproterenol, and Epinephrine by Gradient, Reverse-Phase, HPLC with Electrochemical Detection"*
 35. 4th International Conference on Reye's Syndrome (1984), Columbus, Ohio - *"A Time Course Study of an Animal Model of Reye's Syndrome. I. Hepatic Enzyme and Histologic Parameters"*
 36. 4th International Conference on Reye's Syndrome (1984), Columbus, Ohio.- *"Production of Reye-like Mitochondrial Hepatic Enzyme Deficits in the Rat by Margosa Oil Treatment"*
 37. 52nd Annual Meeting of the Society for Pediatric Research (1983), Washington, D.C. - *"A Possible Animal Model of Reye's Syndrome using Margosa Oil"*
 38. 11th Annual Meeting of the Society for Neuroscience (1981), Los Angeles - *"Continuous Amphetamines - Switch from Stereotypical to Hallucinogen-like Behaviors are Correlated with Changes in Caudate but not Accumbens Dopamine Receptors"*

INVITED LECTURES:

1. 2006, Plastic Surgery Research Council Annual Meeting, Dana Point, California *"Stem Cell Transplantation for Pediatric Brain Disease"*
2. 2006, The Genetics Center, Orange, California *"Stem Cell Transplantation for Pediatric Brain Disease"*
3. 2006, Michigan State University *"Stem Cell Transplantation for Pediatric Brain Disease"*
4. 2005, Psychiatry Grand Rounds, Loma Linda University Medical School, *"Overview of Some Stem Cell Issues"*
5. 2005, Southern California Association of Research Administrators, Children's Hospital of Orange County, Orange, California *"Running a Human Embryonic Stem Cell Culture Training Course"*

6. 2005, Neurosurgery Grand Rounds, University of California, Davis, School of Medicine, *"Stem Cell Transplantation for Pediatric Brain Disease"*
7. 2005, California Tissue Engineering Meeting, University of California, Irvine *"Stem Cell Transplantation for Pediatric Brain Disease"*
8. 2005, Frontiers in Stem Cell Research, University of California, Irvine, *"Stem Cell Transplantation for Pediatric Brain Disease"*
9. 2005, The First Poe Symposium, California State University Channel Islands, *"Brain Transplants – Is This for Real?"*
10. 2005, Biola University, Symposium: How can Life come from a Culture of Death, *"Overview of Some Stem Cell Issues"*
11. 2005, SeaStar Brain Injury Foundation, Tustin, California, *"Stem Cells for the Treatment of Traumatic Brain Injury"*
12. 2005, 17th Annual Symposium, California State University Program for Education and Research in Biotechnology, Los Angeles, California *"Overview of Some Stem Cell Issues"*
13. 2004, Symposium: Developing Stem-Cell Therapies, University of California, Irvine, *"The Neonatal Brain as a Source of Stem Cells for Research and Transplantation"*
14. 2004, Grand Rounds, Children's Hospital of Orange County, *"The Neonatal Brain as a Source of Stem Cells for Research and Transplantation"*
15. 2004, Roundtable on Biomedical Engineering Materials and Applications (BEMA): Stem Cells as Biomaterials of the Future, National Academy of Sciences, *"Overview of Some Stem Cell Issues"*
16. 2004, Southern California Stem Cell Consortium, The Burnham Institute, *"Using Gene MicroArray Data as a Tool to Discover New Ways to Culture Stem Cells"*
17. 2003, Southern California Stem Cell Consortium, The Burnham Institute, *"Postmortem Human Neural Stem Cells - How easy is this?"*
18. 2003, Tulane University Medical Center, Center for Gene Therapy, New Orleans, Louisiana, *"Postmortem Human Neural Stem Cells - How easy is this?"*
19. 2003, Beckman Center, UCI, Laboratory Techniques and Protocols for Human Neural Stem Cells, *"Fetal and Adult Brain - Are they good sources of neural stem cells?"*
20. 2003, Beckman Center, UCI, Laboratory Techniques and Protocols for Human Neural Stem Cells, *"Repair of Human Nervous System Diseases with Neural Stem Cells"*
21. 2002, University of California, Davis, Davis, California, *"Pathology Grand Rounds: Human Neural Stem Cells – Past, Present and Future"*
22. 2002, Children's Hospital of Orange County, Orange, California, *"Grand Rounds: Human Neural Stem Cells – Past, Present and Future"*
23. 2002, Genetics Center, Orange, California, *"Pediatric Brain Banking – New Frontiers"*
24. 2002, UCI Science and Technology Series, Integrating New Technologies to Rebuild the Body, University of California, Irvine, *"Neuroscience Initiatives, Research Perspectives"*
25. 2002, International Workshop in Brain Banking, National Institute of Neurological Disorders and Stroke, *"Human Neural Stem Cell Banking"*

26. 2002, Departments of Neurology, Genetics, Pathology, University of California, Davis, *"Pediatric Brain Banking – New Frontiers"*
27. 2001, Departments of Neurology, Neonatal and Pediatric Critical Care, Children's Hospital and Regional Medical Center, *"Pediatric Brain Banking – New Frontiers"*
28. 2001, Departments of Pathology, University of Washington School of Medicine and Children's Hospital and Regional Medical Center, *"Pediatric Brain Banking – New Frontiers"*
29. 2001, Departments of Neonatal and Pediatric Critical Care, Children's Hospital of Orange County, *"Pediatric Brain Banking – New Frontiers"*
30. 2001, Grand Rounds, Children's Hospital of Orange County, *"Harvest of Post-Mortem Human Neural Stem Cells"*
31. 2000, Departments of Neurology, Genetics, Pathology, Neonatal and Pediatric Critical Care, Oregon Health and Science University, *"Pediatric Brain Banking – New Frontiers"*
32. 2000, Departments of Neurology, Genetics, Pathology, Neonatal and Pediatric Critical Care, Children's Hospital of Oakland, *"Pediatric Brain Banking – New Frontiers"*
33. 2000, Departments of Neurology, Genetics, Pathology, Neonatal and Pediatric Critical Care, University of California, San Francisco, School of Medicine, *"Pediatric Brain Banking – New Frontiers"*
34. 2000, Departments of Neurology, Genetics, Pathology, Neonatal and Pediatric Critical Care, Stanford University Medical Center, *"Pediatric Brain Banking – New Frontiers"*
35. 1999, Salk Institute, La Jolla, California, *"CHOC NIH Brain and Tissue Bank for Developmental Disorders - Specimens for Neuronal Culture"*
36. 1998, CHOC Research Program Seminar Series, Children's Hospital of Orange County, Orange, *"CHOC NIH Brain and Tissue Bank for Developmental Disorders – Past, Present, and Future"*
37. 1997, Department of Genetics, Children's Convalescent Hospital, Children's Hospital of San Diego, *"Pediatric Brain Banking – New Frontiers"*
38. 1992, Neuroscience Grand Rounds, University of California, Irvine, *"Excitotoxic Mechanisms of Ischemic Brain Damage in the Neonatal Rat"*
39. 1991, VAMC Research Seminar, Research Service, VAMC, Sepulveda, *"In Vivo Activation of NMDA Receptors during and after Ischemia"*
40. 1991, Grand Rounds Resident Research Symposium, Department of Neurology, University of California, Los Angeles, and, Excitatory Amino Acids Affinity Group, Brain Research Institute, University of California, Los Angeles, *"In Vivo Activation of NMDA Receptors during and after Ischemia"*
41. 1990, Neurology Research Seminars, Department of Neurology, Children's Hospital Los Angeles, *"Excitotoxic Mechanisms of Brain Damage in a Neonatal Rat Model"*
42. 1988, Pediatric Research Conferences, Huntington Memorial Hospital, Pasadena, California, *"Animal Models of Cerebral Ischemia: Selective Vulnerability and Delayed neuronal Death"*
43. 1988, Pediatric Research Conferences, Huntington Memorial Hospital, Pasadena, California, *"The Role of NMDA Receptors in Selective Neuronal Necrosis after Cerebral Ischemia"*

44. 1986, Neurology Research Seminars, Department of Neurology, Childrens Hospital, Los Angeles, *"A Cardiac Arrest Model of Ischemic Brain Damage in the Adult Rat."*
45. 1985, PICU Research Seminars, Pediatric Intensive Care Unit, Childrens Hospital, Los Angeles, *"Biochemical Correlates of Irreversible Cell Injury after Cerebral Ischemia"*
46. 1985, Neurology Research Seminars, Department of Neurology, Veterans Administration Medical Center, Sepulveda, *"Altered Protein and Amino Acid Metabolism in an Animal Model of a Reye-like Syndrome"*
47. 1984, Neurology Research Seminars, Department of Neurology, Veterans Administration Medical Center, Sepulveda, *"The Margosa Oil Model of Reye's Syndrome"*
48. 1982, PICU Research Seminars, Pediatric Intensive Care Unit, Childrens Hospital, Los Angeles, *"Animal Models of Reye's Syndrome"*
49. 1982, Survey of the Neurological Sciences, Department of Neuroscience, University of California, Los Angeles, *"Modulation of Dopamine Receptors"*
50. 1981, Behavioral Pharmacology, Department of Psychology, University of California, Los Angeles, *"Neurotransmitter Receptor Binding"*
51. 1979, Seminar in Physiological Psychology, Department of Psychology, University of California, Los Angeles, *"Transmethylation Hypothesis of Schizophrenia"*