

Louis Arzate Peña

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EDUCATION

Harvard University	A.B.	Biology	1982
UCLA	Ph.D.	Anatomy & Cell Biology	1991
Stony Brook University	M.B.A.	Management	2013

EMPLOYMENT / PROFESSIONAL APPOINTMENTS

Associate Professor	College of Engineering & Applied Sciences and College of Business, Stony Brook University	2023-pres
Consultant	Phoenix Tailings, Woburn, MA	2022-2023
Director	Nuclear Chemistry Summer School (NCSS), SBU/BNL	2009-2021
Chief Scientific Officer	METIS Laboratories Inc, Ronkonkoma, NY	2016-2020
Director Bus Develop	METIS Laboratories Inc, Valley Stream, NY	2014-2016
Adjunct Assoc Prof	Dowling College Townsend Business School, Oakdale, NY	2012-2016
Consultant	Technology Start-ups Advisor, Setauket, NY	2012-2016
Technology Analyst	Pre-seed Workshop / Long Island Technology Bootcamp Long Island High Technology Incubator, Stony Brook, NY	2012-2014
Sr Scientist (Cont Appt)	Medical Dept & Biosciences Dept, Brookhaven Natl Lab, NY	2008-2015
Adjunct Asst Professor	Department of Biomedical Engineering, Stony Brook University, Stony Brook, NY	2005-2008
Consultant	EISAI Inc., Andover, MA	2004-2005
Scientist	Medical Department, Brookhaven National Laboratory, NY	2004-2008
Consultant	BioSurface Engineering Technologies, Inc. (BioSET), Rockville, MD	2002-2008
Director	Radiobiology Laboratory, Life Science Division, BNL, NY	2001-2008
Faculty	Graduate Program in Neuroscience, State University of New York, Stony Brook, NY	2000-2010
Associate Scientist	Medical Department, Brookhaven National Laboratory, NY	2000-2004
Assistant Scientist	Medical Department, Brookhaven National Laboratory, NY	1999-2000
Research Associate	Radiation Oncology & Exper. Therapeutics, Memorial Sloan Kettering Cancer Center, New York, NY	1995-1999
Postdoctoral Fellow	Cold Spring Harbor Laboratory, Cold Spring Harbor, NY	1991-1995

EDUCATIONAL PROGRAM LEADERSHIP

Director	Life Sciences Innovation & Entrepreneurship Program Advanced Graduate Certificate for biotech workforce development managed by the Center for Biotechnology, jointly with the Dept of Biomedical Engineering and College of Business, Stony Brook Univ.	2023-pres
Director	Nuclear & Radiochemistry Summer School (NCSS) at BNL National workforce development program and combined under- graduate course sponsored by Am Chem Soc & US DOE	2010-2021
Member	Board of Directors, School Nova Academic enrichment program for secondary school students in mathematics, science, languages and visual arts	2016-2020
Coordinator	Educational Programs, Environ. & Life Sci. Division, BNL	2008-2014
Co-Director	Math Scholar Program (a.k.a. "Gifted Math") Regional middle- and high-school program jointly sponsored by BNL & Museum of Mathematics (NYC) <i>Co-director: Louis Peña, BNL</i> <i>Co-director: Cindy Lawrence, Museum of Mathematics, NY</i>	2006-2019

TEACHING POSITIONS

Associate Prof	Stony Brook University, Stony Brook, NY <i>Technology Enterprises: Startups, Finance, and Operations</i> (BUS-510) <i>Technology Enterprises: Technologies, Products, and Markets</i> (BME-511)	2023-pres 2024-pres
Adjunct Prof	Stony Brook University, Stony Brook, NY <i>Radiation Biology (BME-518)</i> <i>Lead Instructor: Terry Button, Dept Radiology & Biomed Eng</i> <i>Co-Instructor: Louis Peña, Dept of Biomed Eng</i> <i>Nuclear Chemistry Lect & Lab (CHE-361, CHE-362)</i> <i>Lead Instructor: Louis Peña, Dept of Chemistry,</i> <i>Co-Instructors: Various</i> <i>Adv. Topics in Neuroscience – Neuroimaging (BNB-654)</i> <i>Course Director: Louis Peña, Dept of Neurobiology</i> <i>Research Ethics, Dept. of Neurobiology</i>	2002-2021 2010-2021 2004-2008 2004-2006
Adjunct Assoc Prof	Dowling College, Townsend School of Business, Oakdale, NY <i>Health Law, Public Policy and Medical Ethics (MGT-6543)</i> <i>Workforce Management for HR Professionals (MGT-6302)</i> <i>Customer Relationship Management (MKT-3144)</i> <i>Human Resource Management (MGT-2075)</i>	2013-2016 2015-2016 2014-2015 2015-2016

	<i>Science & Evolution (NSC-2003C)</i>	2014-2015
Lecturer	School of Medicine, Stony Brook Univ, Stony Brook NY. <i>Medical Neurosciences (HBN-531)</i> <i>Lead Instructor: Mary Kritzer, Dept. Neurobiology</i>	2002-2005
Lecturer	UCLA/Charles R. Drew Medical School, Los Angeles, CA <i>Anatomy, General Physiology</i>	1987, 1988
Instructor	California Acupuncture College, Los Angeles, CA <i>Neuroanatomy, Physiology, Biochemistry</i>	1985-1987
Instructor	Chiropractic National Board Review, Los Angeles, CA <i>Biochemistry</i>	1984-1986
Teaching Fellow	UCLA School of Medicine, Los Angeles, CA <i>Neuroanatomy, Histology, Gross Anatomy, Medical Ethics</i>	1984-1988
Laboratory Instructor	Harvard University Summer School, Cambridge, MA <i>Introductory Biology Laboratory (BiolS-1)</i>	1983, 1984

AWARDS AND HONORS

Outstanding Mentor Award, U.S. Dept of Energy, Office of Energy Education and Workforce Development	2002, 2009
Howard Temin Career Development Award, National Cancer Institute (NIH)	1998
National Science Foundation Postdoctoral Fellowship	1992-1995
Ford Foundation Minority Scholar Fellowship	1991
National Research Service Award (NIH), Predoctoral Fellowship; Laboratory of Neuroendocrinology, Brain Research Institute, UCLA	1987-1990
Martin Luther King Jr./Charles R. Drew Medical School Commendation for Outstanding Teaching	1987

SCIENTIFIC & PROFESSIONAL ORGANIZATIONS

Society for Neuroscience	1985-2010
American Society for Neurochemistry	1987-2010
Radiation Research Society	2005-2008
American Association for Cancer Research	1999-2003
Society for Advancement of Chicanos and Native Americans in Science	1993-2006

EDITORIAL BOARDS

Journal of Neuroscience Research (Elsevier)

1998-2014

INSTITUTIONAL SERVICE & COMMITTEES

Brookhaven National Laboratory (BNL) * Chair/Director

Strategic Planning Task Force, Directorate for Policy and Planning	2012-2015
* Animal Review Procedures & Policy Committee, Directorate for Administration	2011-2013
Director's Safety Committee, Directorate for Administration	2009-2013
Credentialing & Accreditation Committee, Directorate for Life Sciences	2008-2015
Env.& Life Sci. Coordinator of Office of Educational Programs, Directorate for Admin.	2008-2014
Ideas System Committee, Directorate for Administration	2008-2010
Liaison for NY Regional Biotechnology/Life Sciences Industry Forum	2007-2008
* BNL Math Scholar ("Gifted Math") Program, Office of Educational Programs	2006-pres
Diversity Steering Committee, Directorate for Administration	2004-2008
Research Ethics Training Course Design Committee, Directorate for Administration	2004
Misconduct Review Committee, Medical Department	2003
Space and Facilities Committee, Medical Department	2001-2004
Research Library Advisory Committee, Directorate for Administration	2001-2015
Scientific Advisory Committee for Radiobiology, Direct. High Energy & Nuclear Phys.	2000-2004
* Laboratory of CNS Radiobiology, Medical Department	1999-2004
* Committee on Student & Postdoctoral Life, Directorate for Life Sciences	1999-2002
Strategic Planning and Scientific Advisory Committee, Medical Department	1999-2003

SUNY Stony Brook (SBU)

micro-MRI Research Steering Committee	2005-2009
Alliance for Graduate Education and the Professoriate, SUNY Conference	2004
Graduate Program Committee, Program in Neuroscience	2000-2009
Undergraduate Achievement & Research (URECA)	2000-2003

Tenure Review Committees

Christopher Klug, Dept of Chemistry, Augusta University, August, GA	2017
Itzhak Orion, Ph.D., Dept. of Nuclear Engineering, Beer Shiva University, Israel	2006
David Tuthill D.V.M., Dept. of Biology, Kent State University, Kent OH	2004

FEDERAL GRANT REVIEW PANELS

NASA Experimental Program to Stimulate Competitive Research (EPSCoR)	2007-2015
NSBRI, Research & Technology Develop. to Support Crew Health and Performance in Space Exploration Missions, Musculoskeletal	2009-2014
NASA, Ground-Based Studies for Radiation Biology and Radiation Shielding Materials	2005, 2010
DOE Low Dose Radiation Research Program, Molecular Mechanisms and Pathways	2004
US Dept of Homeland Security, Post Exposure Radiation Injury Assessment Tools and Methods for Health Care Workers and First Responders.	2004

PATENTS

Issued:

Zamora, P.O., Atkinson, B.L., Lin, X., Peña, L.A. <i>Composition and method for delivery of BMP-2 amplifler/co-activator for enhancement of osteogenesis</i> US 11,078,244	2021
Zamora P.O., Peña L.A., Lin X., Takahashi K. <i>Positive Modulator of Bone Morphogenic Protein-2</i> US 10,611,810	2020
Peña L.A., Zamora P.O., Takahashi K., Lin X. <i>FGF Growth Factor Analogs</i> US 8,227,411	2012
Zamora P.O., Peña L.A., Lin X. <i>Dual chain synthetic heparin-binding growth factor analogs</i> US 8,163,717	2012
Takahashi K., Zamora P.O., Peña L.A. <i>Single Branch Heparin-Binding Growth Factor Analogs</i> US 8,101,570	2012
Peña L.A., Zamora P.O., Lin X., Glass JD. <i>Synthetic Heparin-binding Factor Analogs</i> US 7,700,563	2010
Peña L.A., Zamora P.O., Lin X., Takahashi K. <i>Heterodimeric chain synthetic heparin-binding growth factor analogs</i> U.S. 7,528,105	2009
Zamora P.O., Peña L.A., Lin X. <i>Growth factor analogs</i> US 7,414,028	2008

GRANTS

Title: "Nuclear and Radiochemistry Summer School"
 Princ. Investig.: Louis Peña, Ph.D. & Lynn Francesconi, Ph.D.
 Agency: US Department of Energy & The American Chemical Society
 Type: (FWP KC0302030 & KP1702030)
 Total Direct (annual): \$ 355,000
 Period: 10/01/2018 – 09/31/2021
 Percent Effort: 20 %, BNL Site Director / SBU Course Instructor

A unique, joint educational program to develop the nation's workforce/pipeline for expertise in nuclear chemistry. This is an intense, 6-week, residential, 6-credit lab & lecture course for the elite chemistry and physics undergraduates. The course is run simultaneously on the East (Brookhaven National Lab) and West Coasts (San Jose State University), with faculty from multiple U.S. universities, National Laboratories, and invited industry experts.

Title: "Epigenetic Responses to Low Dose Radiation"
 Princ. Investig.: Paul Wilson Jr., Ph.D.
 Agency: Brookhaven National Laboratory
 Type: LDRD
 Total Direct (annual): \$ 450,000
 Period: 10/01/2013 – 09/31/2015
 Percent Effort: 5 %, Investigator

Low dose radiation is not immediately toxic to cells and organisms, however, long term changes and adaptations both positive and negative can result. This is a multi-investigator and multi-departmental project to explore epigenetics mechanisms as the basis for these changes.

Title: "Radiotracer Chemistry, Instrumentation and Biological Imaging"
 Princ. Investig.: Joanna Fowler, Ph.D.
 Agency: US Department of Energy
 Type: Special Focus Area (KP1503010)
 Total Direct (annual): \$4,000,000
 Period: 10/01/2009 – 09/31/2011
 Percent Effort: 25 %, Investigator

The goal of this program project is to integrate the chemical and physical sciences to develop scientific tools for real-time in vivo imaging in biological systems to advance the nation's goal of increased reliance on renewable energy. We focus our efforts to develop radiotracer methodology and imaging instruments tailored to studies of the whole plant and its rhizosphere, with special interest in probing plant hormone signaling and epigenetic transformations.

Title: "Peptide Analogs"
 Princ. Investig.: Louis A. Peña, Ph.D.
 Agency: Private (Commercial)
 Type: Cooperative Research and Develop. Award (CRADA-BNL-C-03-01)
 Period: 6/1/03 – 6/1/10
 Percent Effort: n/a

Discovery and *in vitro* screening of synthetic peptide analogs of heparin-binding growth factors for engineered bioactive surfaces.

Title: "Modular Radiotracers for Imaging Brain Metabolism "
 Princ. Investig.: Louis A. Peña, Ph.D.
 Agency: US Department of Energy
 Type: Research Grant (KP-1401020 / MO-079)
 Total Direct (annual): \$218,282
 Period: 06/01/2004 – 09/31/2011
 Percent Effort: 50 %

We previously developed a novel class of synthetic cytokine analogs. In this project, we will couple these receptor targeting molecules to a benzophenone radiolabeling group for PET/SPECT imaging of metabolic states of the CNS involving receptor upregulation.

Title: "Imaging Cytokine Receptors in the CNS "
 Princ. Investig.: Louis A. Peña, Ph.D.
 Agency: NIH / NINDS
 Type: Research Grant (R21-NS057297)
 Total Direct: \$250,000
 Period: 01/31/2009 – 12/31/2010

The goal of this project is to develop novel molecular imaging probes to visualize demyelinating lesions in the CNS based on the upregulation of cytokine receptors at the site of those lesions.

Title: "Center for Biophysical Assessment and Risk Management Following Irradiation (CBARMFI)"
 Princ. Investig.: Paul Okunieff, M.D.
 Agency: NIH / NIAID
 Type: U19 Center Grant
 Period: 6/1/05 – 6/1/10
 Effort: Consultant

One of seven Centers for Medical Countermeasures Against Radiation, Univ. of Rochester's CBARMFI mission is to research ways to measure levels of radiation exposure in humans, treat the toxic effects of radiation, and identify a means of predicting the long-term health risks posed by low levels of radioactive particles.

Title: "Role of ceramide in radiation-induced apoptosis of CNS glia"
 Princ. Investig.: Louis A. Peña, Ph.D.
 Agency: N.I.H. / N.C.I.
 Type: Career Development Award (K01CA76483)
 Total Direct: \$ 417,483
 Period: 2/1/98 – 1/31/03

The ceramide-mediated SAPK/JNK signal transduction cascade was modulated at the level of sphingomyelinases (ASM, NSM) in the cell membrane by molecular genetic and pharmacological

methods. A major goal was to manipulate this pathway to protect normal oligodendrocytes while making CNS tumor cells (glioma) more sensitive to radiation.

Title: "CNS microvascular endothelium as targets for ionizing radiation"
 Princ. Investig.: Louis A. Peña, Ph.D.
 Agency: D.O.E./ B.N.L.
 Type: LDRD 00-32
 Total Direct: \$ 260,000
 Period: 10/1/99 – 9/31/02

Damage to endothelial cells (EC) and subsequent vascular injury is, in many instances, the primary cause of tissue injury to the CNS by ionizing radiation. Using EC and EC/astrocyte co-culture models, we evaluated the effect of x-ray or γ -irradiation on EC survival and blood brain barrier function, and test strategies for desensitizing endothelial cells to radiation.

Title: "Combination of magnetic fields and 20 keV synchrotron X-rays to produce microbeams for cell culture experiments"
 Princ. Investig.: Louis A. Peña, Ph.D.
 Agency: D.O.E./ B.N.L.
 Type: LDRD 01-11
 Total Direct: \$ 17,999
 Period: 10/1/00 – 9/31/02

A pilot project grant to develop the capability at the National Synchrotron Light Source at BNL to produce microscopically thin x-ray beams for radiobiological studies in a configuration appropriate for cell culture studies.

Title: "Imaging gene expression"
 Princ. Investig.: S. John Gatley, PhD
 Agency: D.O.E.
 Type: Research grant (DOE MO-067)
 Total Direct: \$ 720,000
 Period: 10/1/00 – 9/31/03

The project developed a benzophenone radiolabeling group for PET/SPECT imaging that can be coupled to antisense probes (particularly peptide-nucleic acid oligos), and was tested in a model system targeting the glial cell specific mRNA, GFAP, that is upregulated in glioma, inflammation, and trauma to the CNS.

Title: "Risk assessment and chemoprevention of HZE induced CNS damage "
 Princ. Investig.: Marcelo Vazquez, M.D., Ph.D..
 Agency: National Space Biomedical Research Institute
 Type: Research grant (NSBRI 01-04)
 Total Direct: \$ 676,146
 Period: 6/1/01 – 5/31/04

High LET proton and charged particle radiation encountered in manned spaceflight poses a risk of mutagenesis in all tissues. However, the CNS contains major populations of non-cycling, terminally differentiated cells (neurons and oligodendroglia) thus posing different acute and long term risks. BNL's Alternating Gradient Synchrotron produces 1,000 MeV ^{26}Fe charged particles to simulate space radiation. We will compare this model of high LET radiation to low LET x-rays (100 keV) in cell culture models, quantitate p53-dependent and -independent DNA damage, and evaluate radioprotection strategies.

PUBLICATIONS

- Peña LA and de Vellis J (1989): Insulin, insulin-like growth factor-I, and basic fibroblast growth factor differentially induce cytoskeletal tubulin and neurofilament mRNA in primary cultured neurons. *J Neurochem* 52:61.
- Espinosa de los Monteros A, Peña LA and de Vellis J (1989): Does transferrin have a special role in the nervous system? *J Neurosci Res* 24:125-136.
- Kumar S, Huber J, Peña LA, Perez-Polo JR, Werrbach K and de Vellis J (1990): Characterization of functional nerve growth factor-receptors in a CNS glial cell line: Monoclonal antibody 217c recognizes the nerve growth factor-receptor on C6 glioma cells. *J Neurosci Res* 27:408-417.
- Marshak DR. and Peña LA (1992): Potential role of S100 β in Alzheimer's disease: An hypothesis involving mitotic protein kinases. *Prog Clin Biol Res* 379:289-307.
- Kumar S, Peña LA and de Vellis J (1993): CNS glial cells express neurotrophin receptors whose levels are regulated by NGF. *Mol Brain Res* 17:163-168.
- Zhong Y and Peña LA (1995): A novel synaptic transmission mediated by a PACAP-like neuropeptide in *Drosophila*. *Neuron* 14:527-536.
- Peña LA, Brecher CW and Marshak DR (1995): β -Amyloid regulates gene expression of glial trophic substance S100 β in C6 glioma and primary astrocyte cultures. *Mol Brain Res* 34:118-126
- Santana P, Peña LA, Haimovitz-Friedman A, Martin S, Green D, McLaughlin M, Cordon-Cardo C, Schuchman EH, Fuks Z and Kolesnick RN. (1996): Acid sphingomyelinase deficient human lymphoblasts and mice are defective in radiation-induced apoptosis. *Cell* 86:189-199.
- Peña LA, Fuks Z and Kolesnick RN (1997): Stress-induced apoptosis and the sphingomyelin pathway. *Biochem Pharmacol* 53:615-621.
- Mathias S, Peña LA and Kolesnick RN (1998): Signal transduction of stress via ceramide. *Biochem J* 335:465-480.
- Separovic D, Pink JJ, Oleinick NA, Kester M, Boothman DA, McLoughlin M., Peña LA and Haimovitz-Friedman A (1999): Niemann-Pick human lymphoblasts are resistant to phthalocyanine 4-photodynamic therapy-induced apoptosis. *Biochem Biophys Res Commun* 258:506-512.
- Peña LA, Fuks Z and Kolesnick RN (2000): Radiation-induced apoptosis of endothelial cells in the murine CNS: protection by fibroblast growth factor and sphingomyelinase deficiency. *Cancer Res* 60:321-327.
- Dilmanian FA, Button TM, Le Duc G, Zhong N, Peña LA, Smith JAL, Martinez SR, Bacarian T, Tamman J, Ren B, Farmer PM, Kalef-Ezra J, Micca PL, Nawrocky MM, Niederer JA, Recksiek FP, Fuchs A and Rosen EM (2002): Response of the rat intracranial 9L gliosarcoma to Microbeam Radiation Therapy (MRT). *Neuro-Oncology* 4:26-38.
- Zamora PO, Tsang R, Peña LA, Osaki S and Som P (2002): Local delivery of basic fibroblast growth factor (bFGF) using adsorbed silyl-heparin, benzyl-bis(dimethylsilylmethyl)oxycarbamoyl-heparin. *Bioconjugate Chem* 13:920-926.

- Chen M, Zamora PO, Peña L, Som P and Osaki S (2003): NH_3/O_2 mixed gas plasmas alter the interaction of blood components with stainless steel. *J Biomed Mater Res* 67A:994-1000.
- Chen M, Zamora PO, Som P, Peña L and Osaki S (2003): Cell attachment and biocompatibility of polytetrafluoroethylene (PTFE) treated with glow-discharge plasma of mixed ammonia and oxygen. *J Biomater Sci Polymer Edn* 14:917-935.
- Lin X, Zamora PO, Albright S, Glass J and Peña LA (2005): Multi-domain synthetic peptide B2A2 synergistically enhances BMP-2 *in vitro*. *J Bone Min Res* 20:693-703.
- Lin X, Takahashi K, Campion SL, Liu Y, Gustavsen GG, Peña LA and Zamora PO (2006): Synthetic peptide F2A4-K-NS mimics FGF-2 *in vitro* and is angiogenic *in vivo*. *Int J Mol Med* 17(5):833-840.
- Lin X, Peña LA, Zamora PO, Campion SL and Takahashi K (2006): Augmentation of demineralized bone matrix (DMB) by a synthetic growth factor mimetic. *J Orthop Res* 24(11):2051-8.
- Lin X, Elliot JJ, Carnes DL, Fox WC, Peña LA, Campion SL, Takahashi K, Atkinson BL and Zamora PO (2007): Augmentation of osseous phenotypes *in vivo* with a synthetic peptide. *J Orthop Res* 25(4):531-539.
- Dilmanian FA, Qub Y, Feinendegen LE, Peña LA, Bacarian T, Henn FA, Kalef-Ezra J, Liu S, Zhong Z and McDonald JW (2007): Tissue-sparing effect of x-ray microplanar beams: Is a bystander effect involved? *Exper Hematol* 35(4 Suppl):69-77.
- Zhang L, Sun W, Wang J, Zhang M, Yang S, Tian Y, Vidyasagar S, Peña LA, Zhang K, Cao Y, Yin L, Wang W, Zhang L, Schaefer KL, Saubermann, LJ, Swarts SG, Fenton BM, Keng PC and Okunieff P (2010): Mitigation Effect of an FGF-2 Peptide on Acute Gastrointestinal Syndrome after High-Dose Ionizing Radiation. *Int J Radiat Oncol Biol Physics* 77(1):261-268.
- Naidu MD, Mason JM, Pica RV, Fung H and Peña LA (2010): Radiation resistance in human glioma cell lines determined by the DNA damage repair activity of apurinic endonuclease 1 (Ape1/Ref-1). *J Radiat Res* 51:393-404.
- Naidu MD, Agarwal R, Peña LA, Cunha L, Mezei M, Shen M, Wilson DM, Liu Y, Sanchez Z, Wilson SH and Waring MJ (2011): Lucanthone and its derivative Hycanthone inhibit Apurinic Endonuclease-1 (APE1) by direct protein binding. *PLoS ONE* 6(9):e23679.
- Chowdhury SM, Surhland C, Sanchez Z, Chaudhary P, Suresh Kumar MA, Lee S, Peña LA, Waring M, Sitharaman B and Naidu M (2015): Graphene nanoribbons as a drug delivery agent for lucanthone mediated therapy of glioblastoma multiforme. *Nanomedicine* 11(1):109-18.
- Kumar S, Chaudhary P, Dhawan J, Beigon A, Peña LA and Naidu M (2015): Low LET radiation effects to rat spinal cord leads to demyelination, neuro-inflammation in the brain and cognitive defects, which may be attributed to altered DNA Repair. *PLoS ONE* 10(7):e0133016.

MANUSCRIPTS

Neuro-Imaging:

Peña LA, Williams DS, Wang R, Lin X, Gifford AN and Rooney WD: Co-localization of MRI-detectable EAE lesions and a fibroblast growth factor receptor (FGFR) autoradiography probe.

Worth MS, Fernandez TJ, Agrawala PK, Cabail MZ, Smith DS, Medvedeva N, Benveniste H, Vaska P, Thanos P and Peña LA: Visualization of fibroblast growth factor receptor (FGFR) over-expression in demyelinating lesions induced by lipopolysaccharide (LPS) microinjection in the rodent brain.

Tissue Engineering:

Lin X, Zamora PO, Campion S, Williams DS, Gustavsen GG and Peña LA: Promotion of wound healing by locoregional delivery of FGF and growth factor mimetic peptides adsorbed onto silyl heparin coated films.

Radiobiology:

Peña LA, Lin X, Jacobs O and Lau YH: DNA microarray analysis reveals TRAIL/Apo2 as a factor mediating the bystander effect in irradiated endothelium.

Agrawala PK, Lin L and Peña LA: Impairment of BMP-2 induced osteodifferentiation by low-dose radiation of different qualities.

Agrawala PK, Cabail MZ and Peña LA: The histone deacetylase inhibitor and radiosensitizer Trichostatin A is a radiation protectant / mitigator in mice.

Peña LA, Bricchi JL and Cabail MZ: Morphometric analysis of damage to x-irradiated normal bone.

ABSTRACTS

- Damsker JM, Piyis Y, Peña LA, McCall JM (2019): ADME Properties of vamorolone, a first-in-class dissociative steroidal anti-inflammatory drug. *Archives of Diseases in Childhood* 104:e26. ESDPPP 2019 - European Society For Developmental Perinatal And Paediatric Pharmacology, May 2019, Basel, Switzerland.
- Lin X, Zamora PO, Takahashi K, Peña LA, Atkinson BL (2010): Receptor-active multi-domain peptides biotherapeutics: orthopedic applications. Keystone Symposium; Advances in Biopharmaceuticals. Midway, UT.
- Naidu MN, Sanchez Z, Peña LA (2010): Apurinic Endonuclease-1 (Ape1) Protein in Glial Progenitor Cells is Highly Induced by Fractionated as compared to Single Low Dose of X-rays [#1016]. 21st Annual NASA Space Radiation Investigators' Workshop, Port Jefferson, NY
- Agrawala PK, Lin X, Peña LA (2007): Impairment of BMP-induced osteodifferentiation by low-dose radiation: lack evidence for involvement of histone deacetylases. 1st Annual Conference on Normal Tissue Radiation Effects. Las Vegas, NV.
- Agrawala PK, Lin X, Peña LA (2007): Low dose irradiation inhibits BMP-induced osteodifferentiation with low LET x-rays and high LET 56Fe-HZE particles. 13th International Congress of Radiation Research. San Francisco, CA.
- Peña LA, Williams DS, Wang R, Lin X, Gifford AN, Rooney WD (2007): Co-localization of multiple sclerosis-like EAE lesions in rat brain by means of MRI and a radioiodinated peptide probe directed against FGF-receptors. 54th Annual Meeting of the Society for Nuclear Medicine. Washington, DC.
- Lin X, Peña LA, Zamora PO, Campion SL, Takahashi K, Atkinson B (2006): Augmentation of osseous phenotypes in vivo with a synthetic peptide. 21st Annual Meeting of the North American Spine Society. Seattle, WA.
- Peña LA, Williams DS, Lin X, Rooney WD, Wang R, Gifford AN (2006): Development of cytokine receptor PET-imaging probes in the EAE model of multiple sclerosis. 37th Annual Meeting of the American Society for Neurochemistry. Portland, OR.
- Peña LA, Lin X, Glass JD, Crawford JK, Zamora PO (2005): Radiation Protection by FGF-2 Mimetic, Multi-domain Peptides. 52nd Annual Meeting of the Radiation Research Society. Denver, CO.
- Jacobs OA, Recksiek FP, Lin X, Peña LA (2004): Inhibition of p53-independent, radiation toxicity in CG-4 glial progenitors by FGF-2 and synthetic FGF analogs. 35th Annual Meeting of the American Society for Neurochemistry. New York, NY.
- Jacobs OA, Recksiek FP, Lin X, Vazquez ME, Peña LA (2004): Heavy ion radiation sensitivity of CNS glial cells in culture relative to low LET x-rays. 3rd International Workshop on Space Radiation Research / 15th Annual NASA Space Radiation Health Investigators' Workshop, Port Jefferson, NY.
- Gifford AN, Glass JD, Tovar-Salazar A, Pena L, Gatley SJ, Ding Y-S (2003): Radiolabeling of peptide nucleic acid antisense probes for *in vivo* imaging. Annual meeting of Society for Nuclear Medicine.
- Orion I, Peña LA, Lin X, Abraham O, Rosenfeld AB, Zhong Z (2002): Monochromatic x-ray microbeam cell culture irradiation combined with longitudinal-strong magnetic-field confinement. Annual Meeting of The Israeli Society for Medical and Biological Engineering, Beer-Sheva, Israel.
- Vazquez ME, Peña LA, Anderson CW (2000): Risk assessment and chemoprevention of HZE-induced CNS damage. 3rd Annual Retreat of the National Space Biomedical Research Institute, Houston, TX

- Dilmanian FA, Le Duc G, Huang X, Ren B, Wu XY, Bacarian T, Allen JC, Coderre JA, Dean WF, Kershaw M, Laissue JA, Morris GM, Orion I, Peña LA, Rosen EM, Sandhu T, Sathé P, Shivaprasad HL, Trandem K and Zhong Z (2000): High tolerance of duck embryo brains to parallel x-ray microbeam arrays. 9th International Symposium on Pediatric Neuro-Oncology, San Francisco, CA.
- Dilmanian FA, Ren B, Wu XY, Bacarian T, Coderre JA, Le Duc G, Lombardo D, Micca PL, Nawrocky MN, Orion I, Peña LA, Recksiek P, Sathé P, Slatkin DN and Zhong Z (1999): Spatially fractionated, unidirectional microbeam radiation therapy of rat brain gliosarcomas. 4th Annual Meeting of the Society of Neuro-Oncology, Scottsdale, AZ.
- Peña LA, Fuks Z and Kolesnick R.N (1998): Acute radiation-induced apoptosis of endothelial cells *in vivo* in the murine CNS. 3rd Annual Meeting of the Society for Neuro-Oncology, San Francisco, CA.
- Peña LA, Santana MP, Schuchman EH and Kolesnick RN (1996): Restoration of acid sphingomyelinase-dependent ceramide generation and apoptosis in cells from neurodegenerative Niemann-Pick disease patients. 26th Annual Meeting of the Society for Neuroscience, Washington, DC.
- Peña LA, Brecher CW and Marshak DR (1993): β -amyloid Regulates S100 β Gene Expression in C6 Glioma Cells and Primary Astrocyte Cultures. 14th Biennial Meeting of the International Society for Neurochemistry, Montpellier, France.
- Peña LA, Brecher CW and Marshak DR (1993): β -amyloid Regulates S100 β Gene Expression in C6 Glioma Cells and Primary Astrocyte Cultures. 23rd Annual Meeting of the Society for Neuroscience, Washington, DC.
- Kumar S, Huber J, Peña LA, Perez-Polo JR, Werrbach K and de Vellis J (1990): mAb 217c recognizes NGFR in C6 glioma cells. 20th Annual Meeting of the Society for Neuroscience, New Orleans, LA.
- Kumar S, Huber J, Peña LA, Perez-Polo JR, Werrbach K and de Vellis J (1990): mAb 217c recognizes NGFR in C6 glioma cells. 21st Annual Meeting of the American Society for Neurochemistry, Chicago, IL.
- Peña LA and de Vellis J (1989): Insulin, insulin-like growth factor-I, and basic fibroblast growth factor differentially induce cytoskeletal tubulin and neurofilament mRNA in primary cultured neurons. 12th Biennial Meeting of the International Society for Neurochemistry, Albufeira, Portugal.

INVITED TALKS

- "Careers in Technology – Beyond the Academic Postdoc." 2018 Ford Foundation Conference of Fellows. National Academies of Sciences, Irvine, CA. October 20, 2018.
- "Nuclear Chemistry Summer Schools – 30 Years." 256th Meeting of the American Chemical Society, Boston, MA. August 20, 2018.
- "Radioactive Tracers as the Gold Standard for Drug Development: Old School & New School Technologies." 4th Drug Discovery Innovation Programme, Boston, MA. October 5, 2017
- "Bioengineering Applications of Synthetic Growth Factors." University of Puerto Rico, Rio Piedras, San Juan, PR. April 3, 2009.
- "Bioengineering Applications of Receptor Targeting Peptides." Stony Brook University, Dept. of Biomedical Engineering, Stony Brook University, New York, October 25, 2007.
- "Bioengineering Applications of Receptor Targeting Peptides." York College, CUNY, New York, Sept 23, 2007.
- "Radiation Protection by Synthetic FGF Analogs." University of Rochester, Dept. of Radiation Oncology, July 14, 2006.
- "Radiation Protection by Synthetic Growth Factor Analogs." Armed Forces Radiobiology Research Institute, Bethesda, MD. June 9, 2006.
- "Radiation Protection by Synthetic Cytokine Analogs." Oregon Health Science University, Department of Radiation Oncology, Portland, OR. May 13, 2006.
- "Synthetic Cytokines And Other Applications of Multi-domain Receptor-targeting Peptides." Institute of Chemical Biology & Drug Discovery, Stony Brook University. Feb 14, 2006.
- "Synthetic Cytokine Analogs: II. Tissue Engineering." Brookhaven National Laboratory, Medical Department Seminar Series. Jan 29, 2004.
- "Synthetic Cytokine Analogs: I. Radiation Protection." Brookhaven National Laboratory, Medical Department Seminar Series. Jan 22, 2004.
- "Modifying Radiation Tolerance in Experimental Models of the CNS." Visiting Professor Lecture Series in Radiation Oncology and Medical Physics, School of Medicine, State University of New York, Stony Brook, NY. June 6, 2001.
- "Modifying Radiation Tolerance via Stress Signal Transduction." Annual Symposium of the Graduate Program in Neurobiology & Behavior, State University of New York, Stony Brook. October 20, 2000.
- "Ceramide Lipid Signal Transduction and Radiation-Induced Apoptosis in the Brain." Brookhaven National Laboratory, Medical Department Seminar Series. February, 1998.
- "Ceramide Lipid Signal Transduction and Radiation-Induced Apoptosis in the Brain." Department of Pharmacological Sciences Seminar Series, School of Medicine, State University of New York, Stony Brook, NY. January, 1997.
- " β -amyloid Regulates S100 β Gene Expression in C6 Glioma Cells and Primary Astrocyte Cultures." Society for Neuroscience, Washington, DC. November, 1993.
- " β -amyloid Regulates S100 β Gene Expression in C6 Glioma Cells and Primary Astrocyte Cultures." International Society for Neurochemistry, Montpelier, France. April 1993.
- "CNS Glia as Targets for Nerve Growth Factor." Developmental Biology Seminar Series, Wellcome CRC Institute, Cambridge, England. April 1993.

"Insulin, Insulin-like Growth Factor-I, and basic Fibroblast Growth Factor Differentially Induce Cytoskeletal Tubulin and Neurofilament mRNA in Primary Cultured Neurons." International Society for Neurochemistry, Albufeira, Portugal. April 1989

"Agrigenetic Technology, Ecology and Profit-making in Developing Nations." 5th Annual Boston Conference on Bioethics, Boston, MA. March, 1983.

PANELS & WORKSHOPS

Ford Foundation Conference of Fellows, *Career Paths in Industry*, National Academies of Sciences, Irvine CA. October 21, 2018

Ford Foundation Conference of Fellows, *Intellectual Property Arising from Academic Research*, National Academies of Sciences, Washington DC. October 11, 2015

Radiochemistry & Radionuclide Imaging Instrumentation Workshop, Bethesda, MD. April 6, 2011

Radiochemistry & Radionuclide Imaging Instrumentation Workshop, Washington DC. Jan 5, 2010

Biotechnology/Life Sciences Industry Forum. *Projecting Biotech Workforce Needs*. LaGuardia Community College, Long Island City, NY. June 25, 2008

Biotechnology/Life Sciences Industry Forum. *Projecting Biotech Workforce Needs*. LaGuardia Community College, Long Island City, NY. June 27, 2007

"2006 Life Science Industry Summit: Long Island at a Tipping Point," *Emerging Technologies*. NY Center for Biotechnology and the Long Island Life Sciences Initiative, Hilton Long Island, Huntington, NY. May 4, 2006.

"When Professors Say 'X' They Really Mean 'Y'" [Moderator]. NSF-SUNY Alliance for Graduate Education and the Professoriate (AGEP) and Turner Fellowship Program. SBU Center for Inclusive Education. Stony Brook NY. March 20, 2007.

"Inositol and Other Radioprotective Agents," Medical Sciences Division, OBER, DOE. Cambridge, MA. February 16-17, 2005.

"The Ph.D.: A Path to Success," *Careers in Biological and Biomedical Sciences*. SUNY Alliance for Graduate Education and the Professoriate (AGEP). SBU Center for Excellence in Learning & Teaching (CELT). Stony Brook NY. September 23, 2005

