

Subhojit Roy, MD, PhD

8265 Via Mallorca,
La Jolla, CA 92037
sroy@ucsd.edu
www.roylab.org

EDUCATION

Postdoctoral Fellow, 2005 – 2007

Center for Neurodegenerative Diseases Research (CNDP)

Advisors: Virginia Lee and John Trojanowski

University of Pennsylvania, Philadelphia, PA

Fellowship in Neuropathology, 2003 - 2006

Hospital of the University of Pennsylvania, Philadelphia, PA

Residency in Anatomic Pathology, 2001 - 2003

Hospital of the University of Pennsylvania, Philadelphia, PA

PhD in Anatomy and Cell Biology, 1997 - 2001

Temple University School of Medicine, Philadelphia

MD, 1989 – 1995

R.G. Kar Medical College, Kolkata, India

POSITIONS

Professor (ladder rank)

2019 –

Departments of Pathology and Neurosciences

University of California, San Diego CA

Professor

2016- 2019

Departments of Pathology and Neurosciences

University of Wisconsin-Madison, Madison WI

Associate Professor

2013 – 2016

Departments of Pathology and Neurosciences

University of California, San Diego CA

Assistant Professor

2008 – 2013

Departments of Pathology and Neurosciences

University of California, San Diego CA

Attending Neuropathologist

2017 – 2019

UW Medical Center, Madison WI

2011 – 2016

University of California Hospitals (Thornton, Hillcrest)

Attending Neuropathologist

2009 – 2016

Veterans Affairs Hospital, San Diego

PROFESSIONAL LICENSES

2008 – California Medical License

2016 – Wisconsin Medical License

2001 – 2007 Pennsylvania Medical License (inactive)

2007 – Board Certification, Anatomic Pathology and Neuropathology (sub-specialty),
American Board of Pathology

HONORS AND AWARDS

2016 UW 20/20 award (<https://research.wisc.edu/funding/uw2020/round-3-projects/a-crisprcas9-based-therapeutic-strategy-for-alzheimers/>)

2016 UW Medical Foundation professorship

2016 Finalist, HHMI Faculty scholar award (155/1400 applicants selected)

2016 Collaboration for Cure (C4C) award for Alzheimer's disease

2011 American Federation for Aging Research (AFAR) Scholar

2011 John S Spice award in aging from the Larry Hillblom Foundation

2010 March of Dimes Basil O' Connor Scholar

2009 American Parkinson's disease Scholar

2008 New Investigator award, Alzheimer's Association

2005 – 2007 Post-doctoral fellowship from the American Parkinson's disease association

1998 – 2001 PhD Fellowship, Temple University

PATENT

Application number: 62618694; EFS ID: 315332435

Title: **Gene-editing based Method of Attenuating the Beta-Amyloid Pathway**

TEACHING

At University of Wisconsin, Madison

2017	Introduction to Neuropathology, Medical students
2016	Human Pathology for graduate students, PATH 802; Research Credits 399
2017	Human Pathology for graduate students, PATH 802; Research Credits 399
2018	Human Pathology for graduate students, PATH 802; Research Credits 399

At University of California, San Diego

2015	NEU Science Communication for graduate students
2015	MED224/BIOM264, Molecular and cellular basis of disease
2014	NEU268, Molecular and Cellular Neurobiology
2014	BIOM201, seminars in Biomedical Research
2012	NEU268, Molecular and Cellular Neurobiology
2012	Medical student teaching module (renal)
2011	NEU221, Advanced topics in Neuroscience
2008 – 16	Pathology and Neuropathology resident teaching (didactics, occasional)
2008 – 16	Neurology residents (didactics, occasional)
2008 – 16	Clinico-pathologic conferences for the Alzheimer's Center, UCSD (several, at least one/year)

(also, regular teaching of pathology residents/fellows over neuropathology sign-outs)

Other

2014 - 2016	Alzheimer's Center "cultivation events". Several, goal is engaging public in Alzheimer's disease awareness
2013	Axonal Transport School (one-week course), Mahabaleshwar, India
2010	Board review for Neurology Certification Exam, American Physician institute
2005 – 2007	Occasional courses teaching medical students in clinico-pathologic settings (implementing new curriculum)

SERVICE and LEADERSHIP

National and International

2014 – 2020	Standing member of NIH study section Synapses, Cytoskeleton and Trafficking (SYN)
2017 - 2020	Society for Neuroscience, Program Committee (elected by anonymous peers)
2019 -	Standing member of 'Biobank Scientific Review Committee' (BSRC), NIH/NIA.
2016	Grant reviewer for NINDS R35 study sections (ZNS1 SRB)
2016	Grant reviewer for Flanders Research Foundation, Belgium
2015	Grant reviewer for the "Netherlands Organisation for Health Research and Development (ZonMw) TOP programme.
2015	Grant reviewer for "life science focus" Alzheimer's disease, Paul G. Allen

Foundation
 2014 Grant reviewer for Alzheimer's Research UK
 2014 NIH Special emphasis panel review, MDCN Q(03)
 2013 Grant reviewer for National Science Foundation
 2013 Co-organizer of workshop on "Axonal transport and Neurodegenerative Diseases (M2T2 meeting series)", Mahabaleshwar, India
 2013 Hosted researcher from TIGEM (Telethon Institute of Genetics and Medicine) Naples in lab for a month
 2013 Ad-hoc member of SYN
 2013 NIH Special emphasis panel review, MDCN N91
 2012 Grant reviewer for Louisiana Board of Regents grant
 2010 – 2011 Grant reviewer for Alzheimer's association

University of California, San Diego

2015 Alzheimer's disease recruitment committee
 2015 Hosted minority student Deanna Ross in lab as part of the Summer Training Academy for Research in the Sciences (STARS) program
 2015 Faculty mentor for Kelley Breen (assistant professor) as a part of the National Center for Leadership in Academic Medicine (NCLAM) program
 2014 Member of "Alzheimer's disease task force" – a partnering of UCSD Dean's office, state officials, and local philanthropists
 2010 – 16 Medical Scientist training Program (MSTP) admissions committee
 2009 – 16 Neuroscience graduate program "minor proposition committee" member/chair

CHAired MEETINGS (major)

2019 Organizer, Chile Neuronal Cytoskeleton meeting (scheduled)
 2018 Chair, Parkinson's Disease: Alpha-Synuclein: Models and Mechanisms. Nanosymposium, Society for Neuroscience meeting, San Diego 2018
 2016 Organizer and Chair, symposium for 2016 Society for Neuroscience meeting, San Diego (Nov 12-16) "Neuronal Cytoskeleton 2.0: A Revised View of an Ancient Edifice"
 2016 Keystone meeting on axons; Chair of session on "axonal membrane dynamics and axonal transport", Sante Fe, New Mexico, Feb 2016
 2015 Chair, Janelia Farms meeting "The Long and Winding Road: Neuronal Trafficking in Physiology and Disease"
 2015 Chair, "*Neuronal Cytoskeleton 2.0: A Complex Interplay of Cytoarchitecture and Dynamics*" – special interest group meeting at American Society for cell Biology annual meeting, San Diego
 2013 Chair, M2T2 "motors" International meeting, Mumbai/Mahabaleshwar, India
 2012 Chair, minisymposium: "Alpha-synuclein at the Synapse: The Good, the Bad and the Ugly" – Society for Neuroscience (SFN) meeting New Orleans

INVITED SEMINARS (*selected national/international*)

2019 –

- Invited speaker, Scripps Florida, Jan 2019
- Invited speaker, Mayo Clinic Jacksonville, Jan 2019
- Co-organizer, Chile Neuronal Cytoskeleton meeting, April 2019
- Invited speaker, AD/PD meeting, Lisbon, March 2019
- Invited speaker, UBC Vancouver, May 2019
- Invited speaker, Beam Tx, Boston, May 2019
- Invited speaker, Yale, New Haven, Sept 2019 (scheduled)
- Keynote speaker, Australasian Neuroscience Society meeting, Dec 2019 (scheduled)

2018 –

- Northwestern, Jan 2018
- Thomas Jefferson University, March 2018 (scheduled)
- Speaker, Gordon Conference on Cell Biology of the Neuron, June 2018
- Loyola University, Chicago, June 2018; Rensselaer Polytechnic, Sept 2018
- University of Michigan, Oct 2018
- Invited speaker (nominated by students), Tufts Neuroscience, Oct 2018
- Invited speaker, University of Michigan, Oct 2018
- Invited speaker, Florida Atlantic University, Oct 2018
- Platform speaker at "BrightFocus Alzheimer's Fast Track" Workshop – pre Society for Neuroscience conference meeting, Nov 2018
- Speaker, session on Neuronal Cytoskeleton (pre-meeting), annual American Society for Cell Biology (ASCB) meeting Dec 2018
- Italian Academy at Columbia University in New York focused on the "*Cell Biology of Neurodegeneration*". November 2018 (scheduled)
- Invited speaker at Cedars Sinai, LA (Nov 2018, scheduled)

2017

- University of Penn, February 2017
- "*Emerging Concepts of the Neuronal Cytoskeleton*", Puerto Varas, Chile, April 2-6, 2017
- Univ. of Illinois, Chicago, Sept 2017
- Distinguished speaker, Pacific Udall and ADRC, Stanford, Oct 2017
- Invited speaker, Genentech, Oct 2017
- EMBO Cytoskeleton meeting, IISER, Pune, India, Nov 2017
- ASCB meeting, symposia, Dec 2017
- Speaker, American-Portuguese Foundation for Development (FLAD) award, Porto, Portugal, Nov 2017
- Distinguished speaker, Stanford Alzheimer's center, Dec 2017
- Genentech, Dec 2017
- University of Illinois, Dec 2017

2016

- University of New Mexico, health Science Center, Albuquerque, April 2016
- Rutgers University, New Jersey, May 2016
- Talk at Gordon Research Conference on single molecule imaging, Hong Kong, June 2016
- “Grand challenges in Parkinson’s disease” symposium. Van Andel Institute, Michigan Sept 2016
- Symposium on neuronal cytoskeleton, SFN meeting San Diego, Nov 2016

2015

- Colorado State University, Denver, Aug 2015
- University of South Florida, Health Byrd Alzheimer's Institute, Aug 2015
- Gordon conference on Parkinson’s disease, New Hampshire, June 2015
- Janelia Farms meeting “The Long and Winding Road: Neuronal Trafficking in Physiology and Disease”, May 2015
- American Association of Neuropathologists (AANP) meeting, Denver, May 2015
- Center for Neurologic Diseases, Harvard, May 2015
- Medical College of Georgia (Georgia Regents University), April 2015
- University of Wisconsin, April 2015
- EMBO symposium on neuronal cytoskeleton, Puerto Varas, Chile, March 2015
- Winter Brain Conference, Big Sky Montana, Jan 2015

2014

- University of Alabama, Aug 2014
- University of California, Irvine, Aug 2014
- Mayo Clinic, Jacksonville Florida, April 2014

2013

- Columbia University, New York, Nov 2013
- Temple University, Philadelphia, Nov 2013
- TIGEM (Telethon Institute of Genetics and Medicine) Naples, Italy, June 2013
- AD/PD meeting Florence, Italy, March 2013
- M2T2 “motors” International meeting, Mumbai/Mahabaleshwar, India, 2013

2012

- Grand Rounds, UCSD Neurosciences: [Link to Presentation](#)
- American Society for Cell Biology (ASCB) special interest meeting, San Francisco, 2012
- Organizer, minisymposium: “Alpha-synuclein at the Synapse: The Good, the Bad and the Ugly” – Society for Neuroscience (SFN) meeting New Orleans, 2012
- Gordon conference “Cell Biology of the Neuron”, New Hampshire, 2012

2011

- Minisymposium, Society for Neuroscience meeting, Washington DC
- University of California, Irvine MIND-ADRC Seminar Series, May 2011
- “Emerging concepts in neuronal cytoskeleton”, Santa Cruz, Chile, April 2011.
- Experimental Neuroscience seminar series, University of Nebraska, March 2011.

2008 – 2010

- International Conference on Alzheimer’s disease (ICAD), Hawaii, 2010.

- International Society for Neurochemistry meeting, Busan, Korea, 2010.
- Minisymposium, Society for Neuroscience meeting, Chicago 2009.
- American Society for Neurochemistry (ASN) meeting, San Antonio, Mar 2008.

EDITORIAL ACTIVITIES

Ad hoc reviewer

Nature Neuroscience

Journal of Neuroscience

Science

Neuron

PNAS

eLife

Nature Medicine

Cell reports

Nature Communications

Molecular Biology of Cell

EMBO Molecular Medicine

Journal of Neuropathology and Experimental Neurology

Journal of Neurochemistry

Human Molecular Genetics

Journal of Neuroscience Research

Molecular Neurodegeneration

Neurobiology of Aging

Cytoskeleton

Developmental Neurobiology

Journal of Neurogenetics

Brain Research

FASEB

Traffic, eNeuro, PLOS one, Current Biology, and others

PUBLICATIONS

^ PI/Corresponding

Article featuring work in the Roy lab: Inner Workings: Uncovering the neuron's internal skeleton. Dance A. *Proc Natl Acad Sci U S A*. 2016 Dec 6;113(49):13931-13933.

1. Sun J, Wang L, Bao H, Premi S, Das U, Chapman ER, Roy S[^]. Functional cooperation of α -synuclein and VAMP2 in synaptic vesicle recycling. *Proc Natl Acad Sci U S A*. 2019 Jun 4;116(23):11113-11115. doi: 10.1073/pnas.1903049116. Epub 2019 May 20. PubMed PMID: 31110017; PubMed Central PMCID: PMC6561242.
2. Atias M, Tevet Y, Sun J, Stavsky A, Tal S, Kahn J, Roy S[^], Gitler D[^]. Synapsins regulate α -synuclein functions. *Proc Natl Acad Sci U S A*. 2019 Jun 4;116(23):11116-11118. doi:

10.1073/pnas.1903054116. Epub 2019 May 20. PubMed PMID: 31110014; PubMed Central PMCID: PMC6561288.

3. McKetney J, Runde RM, Hebert AS, Salamat S, Roy S, Coon JJ[^]. Proteomic Atlas of the Human Brain in Alzheimer's Disease. **J Proteome Res.** 2019 Mar 1;18(3):1380-1391. doi: 10.1021/acs.jproteome.9b00004. Epub 2019 Feb 20. PMID: 30735395.
4. CRISPR/Cas9 editing of APP C-terminus attenuates β -cleavage and promotes α -cleavage. Sun J, Carlson-Stevermer J, Das U, Shen M, Delenclos M, Snead AM, Koo SY, Wang L, Qiao D, Loi J, Petersen AJ, Stockton M, Bhattacharyya A, Jones MV, Zhao X, McLean PJ, Sproul AA, Saha K, Roy S[^]. **Nature Communications.** 2019 Jan 3;10(1):53. PMID: 30604771.
* See article covering this study in "Alzforum": <https://www.alzforum.org/news/research-news/mice-crispr-based-alzheimers-therapies-inch-forward>
5. Chakrabarty N, Dubey P, Tang Y, Ganguly A, Ladit K, Leterrier C, Jung P and Roy S[^]. (2019). Processive movement of actin by biased polymerization: a new paradigm of axonal transport. *In press, Journal of Cell Biology.* 2019 doi: 10.1083/jcb.201711022.[Epub ahead of print] PubMed PMID: 30401699.
6. Dubey P, Jorgenson K and Roy S[^]. Actin Assemblies in the Axon Shaft - some Open Questions. **Current Opinion in Neurobiology** 2018 June. 51:163-67.
7. Sun J and Roy S[^]. The physical approximation of APP and BACE-1: A key event in Alzheimer's disease pathogenesis. **Developmental Neurobiology.** 2018 Mar;78(3):340-347. PMID: 29106038.
8. Leterrier C, Dubey P and Roy S[^]. The Nano-Architecture of the Axonal Cytoskeleton. **Nature Reviews in Neuroscience.** 2017 Dec;18(12):713-726. PMID: 29097785.
* Highlighted in Nature Collections: <https://www.nature.com/collections/vvfdnigfrj>
9. Roy S[^]. Synuclein and Dopamine: The Bonnie and Clyde of Parkinson's disease. **Nature Neuroscience.** 2017 Oct 26;20(11):1514-1515b. Commentary. PMID: 29073642.
10. Palmeri A, Ricciarelli R, Gulisano W, Rivera D, Rebosio C, Calcagno E, Rosaria, Tropea M, Conti S, Das U, Roy S, Pronzato MA, Arancio O, Fedele E, Puzzo D. Amyloid-beta peptide is needed for cGMP-induced long-term potentiation and memory. **J Neuroscience.** 2017 Jul 19;37(29):6926-6937. PMID: 28626017
11. Ganguly A, Han X, Das U, Wang L, Loi J, Sun J, Gitler D, Caillol G, Leterrier C, Yates J and Roy S[^]. Hsc70 chaperone activity is required for the cytosolic slow axonal transport of synapsin. **Journal of Cell Biology.** 2017 July 3; 216(7):2059-2074. PMID: 28559423.
* Recommended in F1000 prime
9. Tuszynski MH, Yang JH, Barba D, U HS, Bakay RA, Pay MM, Masliah E, Conner JM, Kobalka P, Roy S, Nagahara AH. Nerve Growth Factor Gene Therapy: Activation of Neuronal Responses in Alzheimer Disease. *JAMA Neurol.* 2015 Oct;72(10):1139-47. doi: 10.1001/jamaneurol.2015.1807. PubMed PMID: 26302439; PubMed Central PMCID: PMC4944824.

10. Adamowicz DH, Roy S, Salmon DP, Galasko DR, Hansen LA, Masliah E, Gage FH. Hippocampal α -Synuclein in Dementia with Lewy Bodies Contributes to Memory Impairment and Is Consistent with Spread of Pathology. **J Neuroscience**. 2017 Feb 15;37(7):1675-1684. PMID: 28039370.
11. Roy S[^]. Dynein's life in the slow lane (commentary). **Neuron**. 2016, Jun 1; 90(5):907-9). PMID: 27253442
12. Ladt K, Ganguly A, Roy S[^]. Axonal actin in action: Imaging actin dynamics in neurons. **Methods Cell Biol**. 2016 July 131:91-106. PMID: 26794509
13. Roy S[^]. Waves, rings, and trails: The scenic landscape of axonal actin. **Journal of Cell Biology**. 2016, Jan 18;212(2):131-4 (Review). PMID: 26754647
14. Das U, Wang L, Ganguly A, Saikia J, Wagner SL, Koo EH and Roy S[^]. Visualization of APP and BACE-1 approximation in neurons: new insights into the amyloidogenic pathway. **Nature Neuroscience**, 2016 Jan;19 (1):55-64. PMID: 26642089
 - * Report/peer-comments in 'Alzforum': <http://www.alzforum.org/news/research-news/close-encounters-new-look-where-app-and-bace1-meet>
15. Ganguly A, Tang Y, Wang L, Ladt K, Loi J, Dargent D, Leterrier C, and Roy S[^]. A dynamic formin-dependent deep F-actin network in axons. **Journal of Cell Biology**, 2015 Aug 3 issue; 210(3): 401-17. PMID: 26216902
 - * Cover Illustration
 - * Editorial ("JCB in focus") – 'Actin hotspots blaze a trail along axons'
 - * Recommended in F1000 Prime
16. Wang L, Das U, Scott DA, Tang Y, McLean PJ, Roy S[^]. α -Synuclein Multimers Cluster Synaptic Vesicles and Attenuate Recycling. **Current Biology**, 2014 Oct 6, 24(19):2319-26. PMID: 25264250
 - * Report/peer-comments in 'Alzforum':
 - Synuclein oligomers: Is Ensnaring Synaptic Vesicles their true calling? [Link to article](#)
 - Form and function: What makes synuclein toxic? [Link to article](#)
17. Ganguly A, Roy S[^]. Using photoactivatable GFP to track axonal transport kinetics. **Methods in Molecular Biology**, 2014, 1148:203-15. PMID: 24718803
18. Stoner R, Chow ML, Boyle MP, Sunkin SM, Mouton PR, Roy S, Wynshaw-Boris A, Colamarino SA, Lein ES, Courchesne E[^]. Patches of disorganization in the neocortex of children with autism. **N Engl J Med.**, 2014, 370(13):1209-19. PMID: 24670167.
19. Roy S[^]. Seeing the Unseen: the hidden world of slow axonal transport. **The Neuroscientist** (Review), 2014 Feb; 20(1):71-81. PMID: 23912032
20. Das U, Scott D, Koo EH, Tang Y and Roy S[^]. Activity-induced convergence of APP and BACE-1 in acidic microdomains via an endocytosis-dependent pathway. **Neuron**, 2013 Aug 7, 79(3):447-60. PMID: 23931995.
 - * Recommended in F1000Prime, 08 Sep 2013; [Link](#)
 - * Report/peer-comments in 'Alzforum': Neural Activity Tips Endosomal Balance, Hastens Amyloid Pathology. [Link to article](#)

* News story: UCSD Researchers Answer Key Alzheimer's Question – [KPBS](#), Sciencedaily, Huffington post, others.

* Featured 'video abstract' in Neuron. "Why don't we all get Alzheimer's disease?" [Link to video](#)

21. Tang Y, Scott D, Das U, Gitler D, Ganguly A, and Roy S[^]. Fast vesicle transport is required for the slow axonal transport of synapsin. *Journal of Neuroscience*, **2013** Sept 25, 33(39):15362-15375. PMID: 24068803

* Editorial – 'this week in the journal'

* Recommended in F1000Prime, 08 Oct 2013; [Link](#)

22. Scott D and Roy S[^]. α -synuclein inhibits inter-synaptic vesicle mobility and maintains recycling pool homeostasis. *Journal of Neuroscience*, **2012** July 32(30):10129-35. PMID: 22836248

* Featured cover illustration.

23. Tang Y, Das U, Scott D and Roy S[^]. The slow axonal transport of alpha-synuclein – mechanistic commonalities amongst diverse cytosolic cargoes. *Cytoskeleton* (special issue), **2012**, 69(7):506-13. PMID: 22344896.

* Featured cover illustration.

24. Tang Y, Scott D, Das U, Edland S, Radomski K, Koo E and Roy S[^]. Early and selective impairments in axonal transport kinetics of synaptic cargoes induced by soluble amyloid-beta protein oligomers. *Traffic*, **2012**, May; 13(5):681-93. PMID: 22309053

25. Roy S[^], Yang Ge, Tang Y and Scott D. A simple photoactivation and image-analysis module for visualizing and analyzing axonal transport with high temporal resolution. *Nature Protocols*, **2011**; 15;7:62-8. PMID: 22179592

26. Scott D, Das U, Tang Y and Roy S[^]. Mechanistic logic underlying the axonal transport of cytosolic proteins. *Neuron*, **2011** May 12; 70(3):441-54. PMID: 21555071

* Preview: "The Curious Case of the Soluble Protein". Brady, ST. *Developmental Cell*. 2011 May 17;20(5):581-2.

27. Scott D, Tabarean I, Tang Y, Cartier A, Masliah E, Roy S[^]. A pathologic cascade leading to synaptic dysfunction in α -synuclein-induced neurodegeneration. *Journal of Neuroscience* **2010**, June 16; 30(24):8083-95. PMID: 20554859.

* Featured with editorial comment in "This week in the journal"

* Report/peer-comments on 'Alzforum': Excess α -Synuclein Sends Synapses Sputtering. [Link to article](#)

28. Roy S[^]. The paradoxical cell biology of α -synuclein. *Results Probl Cell Differ*. **2009**; 48:159-72 (review). PMID: 19582404 (**Review**)

29. Roy S, Winton MJ, Black MM, Trojanowski, JQ, Lee V[^]. Cytoskeletal requirements of Slow Component-b transport. *Journal of Neuroscience*, **2008**, 28(20):5248-5256. PMID: 18480281

* Editorial – 'this week in the journal'

30. Soper J, Roy S, Steiber A, Burd C, Lee V[^]. α -synuclein Induced Aggregation of Cytoplasmic Vesicles in *Saccharomyces cerevisiae*. *Molecular Biology of the Cell*. **2008** Jan, 19(3),

1093-1103. PMID: 18172022

31. Roy S, Winton MJ, Black MM, Trojanowski JQ, Lee VM[^]. Rapid and intermittent cotransport of slow component-b proteins. ***Journal of Neuroscience***, 2007, 27(12):3131-38. PMID: 17376974
* Editorial – ‘this week in the journal’
32. Roy S, Zhang B, Lee V, Trojanowski, JQ[^]. Axonal transport defects as a common theme in neurodegenerative diseases. ***Acta Neuropathologica***, 2005 Jan; 109(1):5-13. PMID: 15645263 (Review).
33. Francis F, Roy S, Brady ST, Black MM[^]. Transport of neurofilaments in growing axons requires microtubules but not actin filaments. ***Journal of Neuroscience Research***, 2005, 79(4):442-450. PMID: 15635594
34. Roy S, Coffee P, Smith G, Liem RK, Brady ST and Black, MM[^]. Neurofilaments are Transported Rapidly but Intermittently in Axons: Implications for Slow Axonal Transport. ***Journal of Neuroscience***, 2000, 20(18):6849-6861. PMID: 10995829

Related to human neuropathology:

35. Venneti S, Robinson JL, Roy S, White MT, Baccon J, Xie SX, Trojanowski JQ[^]. Simulated brain biopsy for diagnosing neurodegeneration using autopsy-confirmed cases. ***Acta Neuropathol.*** 2011 Dec;122(6):737-45. PMID: 21959586
36. Liu A, Werner K, Roy S, Trojanowski JQ, Morgan-Kane U, Miller BL, Rankin KP[^]. A case study of an emerging visual artist with frontotemporal lobar degeneration and amyotrophic lateral sclerosis. ***Neurocase.*** 2009; 15(3):235-47. PMID: 19274573
37. Syres K, Harrison F, Tadlock M, Jester JV, Simpson J, Roy S, Salomon DR, Cherqui S[^]. Successful treatment of the murine model of cystinosis using bone marrow cell transplantation. ***Blood***, 2009, 114(12):2542-52. PMID: 19506297
38. Mohyeldin A, Dalgard, CL, Lu H, McFate T, Tait SA, Patel VC, Wong K, Rushing E, Roy S, Acs G and Verma A[^]. Survival and invasiveness of astrocytomas promoted by erythropoietin. ***Journal of Neurosurgery***, 2007, 106(2):338-50. PMID: 17410721
39. Wang S, Wolf RL, Woo JH, Wang J, O'Rourke DM, Roy S, Melhem ER, Poptani, H[^]. Actinomycotic Brain Infection: Registered Diffusion, Perfusion MR Imaging and MR Spectroscopy. ***Neuroradiology***, 2006, 48(5):346-50. PMID: 16614822
40. Roy S[^], Ellenbogen JM. Seizures, frontal lobe mass, and remote history of periodontal abscess. ***Archives in Pathology and Laboratory Medicine***, 2005, 129(6):805-6. PMID: 15913436
41. Roy S, Trojanowski JQ and Zhang PJ[^]. D2-40, a novel monoclonal antibody as a marker to distinguish hemangioblastomas from renal cell carcinomas. ***Acta Neuropathologica***, 2005,

109(5):497-502. PMID: 15864611

42. Giordadze TA, Roy S, Fraker DL, Brooks JS, Livolsi VA[^]. Pathologic quiz case: a 49-year-old woman with an adrenal mass. Pancreatic tissue with nesidiodyplasia, adrenocortical adenoma, and ovarian thecal metaplasia in the adrenal gland. *Archives in Pathology and Laboratory Medicine*, 2004, 128(11):1294-6. PMID: 15504068

(Citations, <http://scholar.google.com/citations?user=FlIF03AAAAAJ&hl=en>)

Other writing:

Several invited comments for the popular Alzheimer's news-forum (Alzforum):
<https://www.alzforum.org/search/subhojit%20AND%20roy?page=0>

FUNDING

Active Research Support

4R01NS075233 NIH/NINDS	Roy (PI)	01/15/12-6/31/24	2.4
Molecular determinants and function of axonal actin assemblies The overall goal of this application is to clarify the molecular organization and function of enigmatic axonal actin assemblies that our lab recently discovered. Role: PI			
1R01NS111978-01 NIH/NINDS	Roy (PI)	04/01/19-03/31/24	2.4
Pathophysiologic roles of alpha-synuclein at the synapse Novel roles of alpha-synuclein in physiology and dementias. Role: PI			
5R01AG048218 calendar NIH/NIA	Roy (PI)	09/01/14-04/30/20	2.4
Trafficking and endosomal sorting of APP and BACE-1 This proposal aims to clarify the trafficking details and convergence of the amyloid precursor protein (APP) with the enzyme beta secretases (BACE-1) in neurons. There is no overlap with the aims of the R21. Role: PI			
5R21AG052404 calendar NIH/NIA	Roy (PI)	07/15/16-03/31/19	1.2
A CRISPR/Cas9 screen to identify genetic modifiers of APP/BACE-1 interaction. The goal is to identify genes involved in APP/BACE-1 trafficking before APP cleavage, using a new optical assay. Role: PI			

1UG3TR002659-01 Roy (multi-PI) 09/01/18-08/31/23 1.2 calendar
NIH/Director's fund

Enabling Nanoplatforms for Targeted in vivo Delivery of CRISPR/Cas9 Ribonucleoproteins in the Brain. The objective of this project is to engineer a family of versatile, novel, non-viral Cas9-gRNA ribonucleoprotein (RNP) delivery nanocapsules (NCs) that can robustly and safely generate targeted gene edits in neurons within the brain.

Past Research Support (selected)

2P50AG005131-266215-P2 (NIA/NIH) Roy (Project leader); PI: Galasko 2009 to 2014
Axonal transport and presynaptic targeting of α -synuclein in pathologic states. The major goal of this project is to test if defects in axonal transport and presynaptic targeting of the α -synuclein protein are the underlying cause of its defective targeting to synapses in pathologic states.

New Investigator in Alzheimer's Disease, AFAR Roy (PI) 7/2011 to 6/2013
Neuronal trafficking and metabolism of key proteins in Alzheimer's disease and novel intervention strategies.

March Of Dimes Basil O'Connor Starter award- Roy (PI) 3/2010 to 7/2012
Mechanisms of axonal transport of actin.
Determine fundamental mechanisms of axonal transport of actin in slow axonal transport.

Start-up grant from Larry Hillblom Foundation- Roy (PI) 6/2008 to 6/2011
Axonal transport deficits and therapeutic avenues in Alzheimer's disease. The major goal of this grant is to investigate the potential role of amyloid oligomers in influencing axonal transport.

New Investigator research grant, Alzheimer's association- Roy (PI) 9/2008 to 3/2011
Mechanisms of axonal transport dysfunction in Alzheimer's disease. The major goal of this project is to investigate the role of tau in influencing potential amyloid-induced axonal transport disturbances in Alzheimer's disease.

Research grant, American Parkinson's Disease Association- Roy (PI) 1/2009 to 1/2010
Effects of α -synuclein on axonal transport. The major goal of this project is to evaluate the effects of modest amounts of α -synuclein on the axonal transport of various cargoes.

CURRENT LAB PERSONNEL

Postdoctoral Fellows

- Jichao Sun (2016 -) (funded by post-doctoral fellowship from Alzheimer's Association, ~ 60K/yr, 10/2017 to 9/2020) Grant # 133-AAC7867
- Pankaj Dubey (2016 -)
- Brent Aulston (2019 -)

- Archan Ganguly (2019 -)
- Leonardo Parra (2019 -)
- Rohan Sharma (2019 -)

PAST PERSONNEL

Students (current position)

- David Scott (PhD from MIT, currently entrepreneur, founder of Arbor technologies)
- Yong Tang (MSTP student at Stanford)
- Kelsey Ladt (2014 – 2016); MSTP student at UCSD, funded by NINDS F30)
- David Adamowicz (2012 – 2016); MSTP student at UCSD, co-mentor – primary mentor Rusty Gage, Salk). Currently resident in Psychiatry

Postdoctoral Fellows and Staff Scientists (current position)

- Lina Wang (2012 – 2017; funded by post-doctoral fellowship from Larry Hillblom Foundation, currently scientist in Amgen)
- Utpal Das (2014 – Dec 2016, currently staff scientist at UCSD with Lawrence Goldstein)
- Archan Ganguly (2012 – Dec 2016) – currently staff scientist in Roy lab
- Dianhua Qiao (2017 - 2019) – currently staff scientist at UWisc-Madison
- Sanjay Premi (2018 - 2019) – currently Assistant Professor at Moffitt Cancer Center, Tampa FL

Neuropathology Fellows

- Ewa Borys (2008 – 10; Asst Prof., Loyola Univ., Chicago)
- Homeyra Masoumi (2010-12; Faculty, Tehran Univ.)
- Mary Goolsby (2011-13; Neuropathologist, Medical examiner's office, Tulsa OK)
- Peter Kobalka (2014 – 2016; Neuropathology fellow, UCSD)
- Deirdre Amaro (2014 – 2016; Neuropathology fellow, UCSD)
- Vivian Snyder (2015 – 2016; Neuropathology fellow, UCSD)

PROFESSIONAL SOCIETIES

American Society for Cell Biology
Society for Neuroscience