Curriculum Vitae

Robin Roychaudhuri, Ph.D.
Assistant Professor,
University of Maryland School of Medicine, Baltimore.

Date 11/19/2025

Contact Information

Email: rroychaudhuri@som.umaryland.edu

Education

Undergraduate (B.S)

St. Joseph's College, Bangalore University, Bangalore, India; 1992-1995; Biological Sciences.

Graduate (M.S)

Central College, Bangalore University, Bangalore, India; 1995-1997; Biochemistry.

Graduate (Ph.D.)

University of Nebraska-Lincoln, Lincoln, USA; 1998-2003; Major: Biochemistry.

Thesis: Structural Stability and Refolding of the Soybean Kunitz Trypsin Inhibitor.
Thesis Advisor: Prof. John P. Markwell.

Post-Doctoral Training.

Post-doctoral Fellowship; 2003-2006; Harvard Medical School.

Post-doctoral Fellowship; 2006-2008; UCLA School of Medicine.

Employment History.

Academic Appointments

Research Associate; 2008-2014; UCLA School of Medicine; Dept. of Neurology.

Research Associate; 2014-2022; Johns Hopkins School of Medicine; Dept. of Neuroscience.

Assistant Professor; 2022-present; University of Maryland School of Medicine.

Professional Society Memberships.

Society for Neuroscience (SfN)

American Heart Association (AHA)

Japanese Biochemical Society (JBS)

Honors and Awards.

1. University Grants Commission-Council for Scientific and Industrial Research (UGC-CSIR) Junior Research Fellowship by Govt. of India (Science and Technology). **1997.**
2. 95th percentile in Graduate Aptitude Test in Chemistry (GATE)-All India. **1997.**
3. U.K. Cambridge Commonwealth Scholarship at the University of Cambridge, U.K. **1998.**
4. Milton E. Mohr Outstanding Teaching Fellowship at the University of Nebraska-Lincoln. **2001.**
5. Second Prize in UCLA Dept of Neurology Annual Science Day Poster presentation. **2011.**
6. Third Prize at Seaborg Symposium Poster Presentation. **2012.**
7. UCLA Department of Neurology Service Award. **2012.**
8. Dean's Prize finalist at UCLA Science Poster Day. **2013.**
9. Curriculum Development and Educational Leadership at UCLA School of Medicine. **2014.**
10. Invited Speaker, 32nd International Symposium on Chirality, Chicago, USA. **2022.**
11. Keynote Speaker, 5th International Conference on D-amino acids, Urbana, Illinois, USA. **2022.**
10. Maryland Stem Cell Foundation Launch Award. **2024.**
11. NIH-Mead Johnson Nutrition Young Investigator Award. **2025.**
12. Invited Speaker, Japanese Biochemical Society, Kyoto, Japan. **2025.**

Administrative Service.

Local and National Service

1. Journal of Immunology (Ad hoc reviewer; 2009)
2. Biochemistry (Ad hoc reviewer; 2010)
3. Journal of the American Chemical Society (Ad hoc reviewer; 2012)
4. Proceedings of the National Academy of Sciences (Ad hoc reviewer; 2013)
5. Journal of Medicinal and Bioorganic Chemistry (Ad hoc reviewer; 2013)
6. Science (Ad hoc reviewer; 2016)
7. Bentham Press (2024)
8. eLife (2025)

[Reviewed original manuscripts from the journals listed above.]

Editorial Board Member: Journal of Molecular Biology. 2024-till present

Teaching Service.

2001-2002 Graduate Teaching Assistant (University of Nebraska-Lincoln), BIOC 321L, Biochemistry Lab and Lecture, 30 students, 4 hours/day, once a week for one semester (5 months). Two semesters total.

2004-2005 Mentored high school students (two) in summer lab research. Harvard Medical School, Boston. 4 months.

2014 Instructor; Winter Quarter (UCLA School of Medicine, Los Angeles), M262A and M262B: "Molecular Mechanisms of Human Disease". 25 students, 3 hours/day, twice a week (3-4 months). One quarter total.

Grant Support.

Funded Grants

1/2/25-1/2/27 (PI, 50%)
Role of lipid metabolic signatures in human iPSC-derived neurons from AD patients.
Maryland Stem Cell Research Launch Award
Total Direct Costs: $350,000 (two years)

2/5/25-2/5/27 (PI, 25%)
Novel Neurotransmitters in Fetal Brain Development.
UMB Departmental Grant DP25
Total Costs: $100,000 (two years).

Publications.

Peer-reviewed journal articles [chronological order] [*=first author; #=corresponding author]

1. *__Robin Roychaudhuri__, Gautam Sarath, Mike Zeece and John Markwell. Reversible Denaturation of Soybean Kunitz Trypsin Inhibitor. ***Arch Biochem Biophys. 2003; Apr1; 412(1): 20-6***.

2. *__Robin Roychaudhuri__, Gautam Sarath, Mike Zeece and John Markwell. Stability of the allergenic soybean Kunitz Trypsin Inhibitor. ***Biochem et Biophys Acta. 2004; Jun1; 1699(1-2): 207-12***.

3. *__Robin Roychaudhuri__, Mingfeng Yang, Minako Hoshi, and David. B. Teplow. Amyloid β-protein Assembly and Alzheimer's Disease. ***J Biol Chem. 2009; Vol 284; 4749-4753***.

4. *__Robin Roychaudhuri__, Mingfeng Yang, Margaret Condron and David B. Teplow. Structural dynamics of the amyloid β-protein monomer folding nucleus. ***Biochemistry. 2012; 51, 3957-3959: "Highlight Article"***.

5. *__Robin Roychaudhuri__, Mingfeng Yang, Atul Deshpande, Aleksey Lomakin, Sally Frautschy, Greg Cole, George Benedek and David B. Teplow. C terminal turn stability determines assembly differences between Aβ40 and Aβ42. ***J. Mol Biol. 2013; 425(2), 292-308***.

6. Zhengjian Lv, __Robin Roychaudhuri__, Margaret Condron, David B. Teplow and Yuri Lyubchenko. Mechanism of amyloid β-protein dimerization using single-molecule AFM force spectroscopy. ***Sci Rep. 2013; Oct 7;3: 2880:(1-14)***.

7. *__Robin Roychaudhuri__, Aleksey Lomakin, Summer Bernstein, Xueyun Zheng, Margaret Condron, George Benedek, Michael Bowers, and David B. Teplow. Gly25-Ser26 amyloid β-protein structural isomorphs produce distinct Aβ42 conformational dynamics and assembly characteristics. ***J. Mol Biol. 2014; 426(13), 2422-2441***.

8. *__Robin Roychaudhuri__, Anja Hergreuter, and Caroline A. Owen. ADAM9 is a novel product of polymorphonuclear neutrophils: Regulation of expression and contributions to extracellular matrix protein degradation during acute lung injury. ***J. Immunol. 2014; 193(5), 2469-2482***.

9. Zheng Xueyun, Liu D, __Robin Roychaudhuri__, David B.Teplow and Michael T. Bowers. Amyloid β-protein assembly: Differential Effects of the Protective A2T Mutation and Recessive A2V Familial

Alzheimer's Disease Mutation. ***ACS Chem Neurosci. 2015; Oct 21; 6(10);1732-1740.***

10. *__Robin Roychaudhuri__, Aleksey Lomakin, Panchanan Maiti, Margaret M. Condron, George B. Benedek, Gal Bitan and David B.Teplow. Role of species-specific primary structure differences in Aβ42 assembly and neurotoxicity. ***ACS Chem Neurosci. 2015; Dec 16; 6(12);1941-1955***.

11. Stephanie M. Fogerson, Alexandra J. van Brummen, David J. Busch, **Robin Roychaudhuri**, Susan M.L Banks, Frank-Gerrit Klarner, Thomas Schrader, Gal Bitan and Jennifer R. Morgan. Reducing synuclein accumulation after spinal cord injury improves neuronal survival and axon regeneration. ***Expl Neurol. 2016; Apr; 278; 105-115***.

12. Bagrat Abazyan, Chang Hoon Cho, Aleksey Shevelkin, Chan-il Choi, Sofya Abazyan, John Welby, **Robin Roychaudhuri**, Solomon H. Snyder, Mi-Hyeon Jang and Mikhail Pletnikov. DISC1 in astrocytes influences adult neurogenesis and affective behaviors in mice. ***Neuropsychoparmacology; 2017; Oct 42(11);2242-2251***.

13. *__Robin Roychaudhuri__, Huynh TV, Whitaker TR, Hodara E, Condron MM, Teplow DB. A critical role of Ser 26 hydrogen bonding in Aβ42 assembly and toxicity. ***Biochemistry. 2017; Dec 5; 56(48), 6321-6324***.

14. Evan Semenza, Maged Harraz, Efrat Abramson, Adarsha Malla, Chirag Vasavda, Moataz Gadalla, Michael Kornberg, Solomon Snyder and #__Robin Roychaudhuri__. D-cysteine is an endogenous regulator of neural progenitor cell dynamics in the mammalian brain. ***Proc. Natl. Acad. of Sci. USA. 2021; 118 (39)***.

15. #__Robin Roychaudhuri__ and Solomon Snyder. Mammalian D-cysteine: a novel neural progenitor cell proliferation. ***BioEssays. 2022; Vol 44; Issue 7***. [Invited review].

16. #__Robin Roychaudhuri__. Serine Racemase: A Tale of Two Stereoisomers D-Cysteine and D-Serine. ***ASEAN J. Psychiatry. 2022; Vol. 23 (S2); July; Pg 1-4***.

17. *#__Robin Roychaudhuri__, Moataz M. Gadalla, Timothy West and Solomon H. Snyder. A Novel Stereospecific Bioluminescent Assay for the Detection of Endogenous D-Cysteine. ***ACS Chem Neuroscience 2022; Dec 7;13(23);3257-3262***. ***"Editor's choice Article"***.

18. #__Robin Roychaudhuri__. Mammalian D-Cysteine: A new addition to the growing family of biologically relevant D-amino acids. ***Chirality 2023; Mar 8; doi:10.1002/chir.23555***.

19. *#__Robin Roychaudhuri__, Hasti Atashi, and Solomon H. Snyder. Serine Racemase mediates adult SVZ neurogenesis in mice via fatty acid metabolism. ***Stem Cell Reports. 2023; Jul 11;18(7):1482-1499***.

20. Isis Nem Oliveira de Souza, **Robin Roychaudhuri**, Jacqueline de Belleroche, and Jean-Pierre Mothet. D-amino acids: a new pathway for clinical intervention in brain diseases. ***Trends in Molecular Medicine. 2023. Dec 29 (12):1014-1028***.

21. *#__Robin Roychaudhuri__, Timothy West, Soumyaroop Bhattacharya, Harry Saavedra, Hangnoh Lee, Moataz Gadalla, Lauren Albacarys, Mario Amzel, Peixin Yang, and Solomon H. Snyder. Mammalian D-cysteine controls insulin secretion in the pancreas. ***Molecular Metabolism. 2024; Dec;90;102043***.

22. # **Robin Roychaudhuri**. Altered Lipid Landscapes Provide a Molecular Perspective on Schizophrenia. ***J Psychiatry and Brain Sci***. **2025**;10(6):e250016. https://doi.org/10.20900/jpbs.20250016

Book Chapters (peer reviewed)

1. David Teplow, Mingfeng Yang, **Robin Roychaudhuri**, Eric Pang, Phat Huynh, Mei-Sha Chen, Shiela Beroukhim. The amyloid β-protein and Alzheimer's disease. ***Alzheimer's Disease: Targets for New Clinical Diagnostic and Therapeutic Strategies; in CRC Press – Pg 2-85.*** **(Book Chapter) 2012**.

Posters and Conferences [chronological order]

1. Murat Kaynar, **Robin Roychaudhuri**, Steven D Shapiro and Caroline A. Owen. Inducible Expression of Inflammatory Cell ADAMs -8, -10, -15 and -17 during Acute Lung Injury. *Am. J. Respir. Crit Care Med*. 2004:169:A414. [Equal author]

2. *__Robin Roychaudhuri__, Carl P. Blobel and Caroline A. Owen. ADAM9 is a matrix-degrading inflammatory cell proteinase but is not required for PMN migration into the lung during acute lung injury in mice. *Proceedings of the American Thoracic Society.*2005:2; A838.

3. *__Robin Roychaudhuri__, Aleksey Lomakin, George B. Benedek, Margaret M. Condron and David B. Teplow. Chemical Biology of Alzheimer's Amyloid β protein. *12th Annual UCLA Research Conference on Aging, Proceedings and Abstracts, June 26th 2007.*

4. *__Robin Roychaudhuri__, Aleksey Lomakin, George B. Benedek, Margaret M. Condron and David B. Teplow. Chemical Biology of Alzheimer's Amyloid β protein. *Poster presented at the Society for Neuroscience International Conference in Washington D.C, 2008.*

5. Mingfeng Yang, **Robin Roychaudhuri**, Atul Deshpande, Margaret Condron, Sally Frautschy, Greg Cole and David B. Teplow. Structural Determinant of Amyloid β-protein oligomerization. *Poster presented at the Biophysical Society Meeting in 2010 in San Francisco.*

6. *__Robin Roychaudhuri__, Mingfeng Yang, Margaret Condron, and David B. Teplow. Conformational differences between blocked and unblocked Aβ21-30. *Poster presented in the UCLA Dept of Neurology, Annual Science Day Poster competition, Jan 2011. (Second Prize).*

7. Taylor Whitaker, Elisabeth Hodara, **Robin Roychaudhuri,** and David B. Teplow. Role of Met35 in Amyloid β-protein assembly and aggregation. *Poster presented in the Seaborg Symposium, Dec 2012. (Third Prize).*

8. Taylor Whitaker, Elisabeth Hodara, **Robin Roychaudhuri,** and David B. Teplow. Role of Met35 in Amyloid β-protein assembly and aggregation. *Poster presented in the American Chemical Society Southern California Conference, April 2013.*

9. Zhengjian Lv, Yuliang Zheng, Alexey Krasnoslobodsev, **Robin Roychaudhuri**, Margaret M. Condron, David B. Teplow, Sandor Lovas, Luda S. Shyakhtenko and Yuri L. Lyubchenko. Misfolding and interactions of Aβ proteins: Insight from single molecule experiments and computational analyses. *Presented at the 3rd International Conference on Molecular Degeneration: Basic biology and disease pathways, Cannes 2013.*

10. Lv Zhengjian, Yuliang Zhang, Alexey Krasnoslobodsev, **Robin Roychaudhuri**, Margaret Condron, David Teplow, Sandor Lovas, Luda Shlyakhtenko, Yuri Lyubchenko. Misfolding and interactions of Aβ proteins: Insight from single molecule experiments and computational analyses. 2013. *Mol Neurodegener:* Vol 8: Suppl 1: Pg 64.

11. Elisabeth Hodara, **Robin Roychaudhuri**, Margaret Condron and David B. Teplow. Conformation and Assembly dynamics of A2T and A2V mutations in Alzheimer's disease. *Poster presented at the UCLA Annual Neurology Science Day Symposium. 2014.*

12. *__Robin Roychaudhuri__, Hasti Shirazi, Paul Kim and Solomon H. Snyder. D-Serine mediates adult neurogenesis in mice. *Poster presented at the Society for Neuroscience Conference, San Diego. 2016.*

13. Evan Semenza, Maged Harraz, Moataz Gadalla, Solomon Snyder and #**Robin Roychaudhuri**. Mammalian D-cysteine is a neuroregulator. *Poster presented at the Society for Neuroscience Conference (virtual), 2021.*

14. Saima Khatoon, Yang Liu, Angou Liu, **Robin Roychaudhuri**, Lei Jun and Irina Burd. Serine racemase and CD133 expression in acute and sub-chronic murine models of intrauterine inflammation. *Poster presented at the Society for Reproductive Investigation, Vancouver, Canada, 2024*.

Major Invited Talks [selected]

1. Invited speaker at the International Symposium on Chirality. July 2022, Chicago. Title: Mammalian D-Cysteine endogenously regulates neural progenitor cell proliferation in the mammalian brain.

2. Keynote speaker at the International Conference for D-Amino Acid Research (ICDAR). July 2022, University of Illinois at Urbana-Champaign. Title: Mammalian D-Cysteine is a regulator of neural progenitor cell proliferation in the mammalian brain.

3. Speaker at Obstetrics and Gynecology Research Retreat Symposium, University of Maryland School of Medicine. November 4th 2023, Baltimore. Title: Placenta As An Organ for Opioids.

4. Invited speaker at the Japanese Biochemical Society, Nov 5th-7th, 2025, Kyoto, Japan. Title: Identification of Mammalian D-Cysteine and its Role in Pancreatic Insulin Secretion and islet function.