

# DEEPIKA VASUDEVAN, Ph.D.

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## EDUCATION

- 2013            Doctor of Philosophy (Molecular and Cellular biology)  
                  Stony Brook University, New York
- 2006            Bachelor of Engineering (Biotechnology)  
                  People's Education Society Institute of Technology, India  
                  (Affiliated with Visweswaraya Institute of Technology)

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## EMPLOYMENT HISTORY

- Apr 2014-     Postdoctoral Research Fellow, Dept. of Cell Biology  
May 2021     NYU School of Medicine, New York, NY
- June 2021-*   Assistant Professor, Dept. of Cell Biology  
                  University of Pittsburgh, Pittsburgh, PA

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## RESEARCH EXPERIENCE

- Apr 2014-  
*present*     Postdoctoral fellow, NYU Medical Center (NYUMC), New York, NY  
                  Advisor: Prof. Hyung Don Ryoo, Dept. of Cell Biology  
                  Translational regulation in extrinsic and intrinsic cellular stress
- Generated in vivo stress reporters in *Drosophila* and used it to identify novel regulators of mRNA translation during ER stress. Confirmed that these regulators are conserved in human cells.
  - Elucidated the role of stress-driven translation regulation in the innate immune pathway.
  - Using ribosome profiling methods and proteomics to studying noncanonical translation during retinal degeneration.
- Aug 2006-  
Dec 2013     Ph.D. student, Stony Brook University, Stony Brook, NY  
                  Thesis Advisor: Prof. Robert Haltiwanger, Dept. of Biochemistry  
                  Study of O-fucosylation in Thrombospondin Type 1 repeats
- Identified key substrates of  $\beta$ 3-glucosyltransferase involved in the pathology of Peter's Plus Syndrome.
  - Developed kinetic in vitro protein refolding methods and mass spectrometric analysis to measure extent of protein misfolding.
- Sep 2005-  
Jun 2006     Undergraduate research student, Indian Institute of Science, Bangalore, India  
                  Thesis Advisor: Prof. H.N. Vasan, Solid State and Structural Chemistry Unit  
                  Nanosilver Generation and its effect against microbes
- Adapted synthesis of nanosilver films for large-scale field applications.
  - Demonstrated antimicrobial properties of nanosilver film bandages against bacterial and fungal cultures.

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## PUBLICATIONS

1. Kato, H.\*, Vasudevan, D.\*, Ryoo, H.D., The Unfolded Protein Response (UPR) Assay Methods in *Drosophila*, *Methods in Molecular Biology (in press, \*equal contribution)*.
2. Vasudevan, D., Yang, A., Neuman, S.D., Lough, L., Bashirullah, A., Cardozo, T., Ryoo, H.D., Translational induction of ATF4 mRNA during Integrated Stress Response requires eIF2D and DENR. *Nat Comm.* 2020 Sep 16. PMID: 32938929.
3. Zhang, A., Berardinelli, S. J., Leonhard-Melief, C., Vasudevan, D., Liu, T., Taibi, A., Giannone, S., Apte, S. S., Holdener, B. C., Haltiwanger, R. S. O-Fucosylation of ADAMTSL2 is required for secretion and is impacted by geleophysic dysplasia-causing mutations. *J Biol Chem.* 2020 Sep 10. PMID: 32913123.
4. Lough, L. Sherman, D., Beccera-Flores, M., Vasudevan, D., Lavinda, O., Ni, E., Wang, H., Ryoo, H.D., Tibes, R., and Cardozo, T., Triazolo[4,5-d]pyrimidines as Validated General Control Nonderepressible 2 (GCN2) Protein Kinase Inhibitors Reduce Growth of Leukemia Cells, *Comput. Struct. Biotechnol. J.*, 2018 Sep 28. PMID: 30364637.
5. Vasudevan, D., Clark, N., Sam, J., Marr, M.T., Ryoo, H.D., The GCN2-ATF4 Signaling Pathway Induces 4E-BP to Bias Translation and Boost Antimicrobial Peptide Synthesis in Response to Bacterial Infection, *Cell Reports* 2017 Nov 21. PMID: 29166596.
6. Ryoo, H.D., Vasudevan, D., Two distinct nodes of translational inhibition in the Integrated Stress Response, *BMB Reports* 2017 Nov. PMID: 28803610,
7. Kang, M-J., Vasudevan, D., Kang, K., Kim, K., Park, J-E., Zhang, N., Zeng, X., Neubert, T.A., Marr, M.T., Ryoo, H.D., 4E-BP is a target of the GCN2/ATF4 pathway during *Drosophila* development and aging, *Journal of Cell Biology* 2017 Jan 2. PMID: 27979906.
8. Dubail, J., Vasudevan, D., Wang, L.W., Earp, S.E., Jenkins, M.W., Haltiwanger, R.S., Apte, S.S. Impaired ADAMTS9 secretion: A potential mechanism for eye defects in Peters Plus Syndrome, *Science Reports.* 2016 Sep 30. PMID: 27687499.
9. Valero-González, J., Leonhard-Melief, C., Lira-Navarrete, E., Jiménez-Osés, G., Hernández-Ruiz, C., Pallarés, M. C., Yruela, I., Vasudevan, D., Lostao, A., Corzana, F., Takeuchi, H., Haltiwanger, R.S., Hurtado-Guerrero, R., A proactive role of water molecules in acceptor recognition by Protein O-fucosyltransferase 2, *Nature Chem. Biol.* 2016 Apr. PMID: 26854667.
10. Vasudevan, D., Ryoo, H.D., Detection of cell death in *Drosophila* tissues, *Methods in Molecular Biology* 2016. PMID: 27108437.
11. Vasudevan, D., Ryoo, H.D., Regulation of cell death by IAPs and their Antagonists, *Current Topics in Developmental Biology* 2015. PMID: 26431568.
12. Vasudevan, D., Takeuchi, H., Johar, S.S., Majerus, E., Haltiwanger, R.S., Peters Plus Syndrome Mutations Disrupt a Noncanonical ER Quality-Control Mechanism, *Current Biology* 2015 Feb 2. PMID: 25544610.
13. Vasudevan, D., Haltiwanger, R. S., Novel roles for O-glycans in protein folding, *Glycoconjugate journal* 2014 Oct. PMID: 25186198.

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## AWARDS & FUNDING

### FELLOWSHIPS & GRANTS

2018-24	NIH K99/R00 Pathway to Independence Award (NEI)
2017-18	American Heart Association Postdoctoral fellowship

## HONORS

2016	Postdoctoral travel award	NYU Postdoctoral association
2016	Trainee travel award	Genetics Society of America
2015	Best poster award	Skirball Institute Retreat, NYUMC
2011	Distinguished student travel award	Stony Brook University
2009-11	Student travel awards	Society of Glycobiology
2006-07	Presidential fellowship	Stony Brook University
2002-06	Academic excellence award	PESIT

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## ORAL PRESENTATIONS

Feb 2021	Invited speaker, hosted by Dr. Peter Stoilov, West Virginia University
Oct 2020	Invited speaker, THINC RNA and Chromatic Group, Baylor College of Medicine
Oct 2020	New Faculty Talk, Rustbelt RNA Meeting, Pittsburgh
Oct 2020	Invited speaker, hosted by Dr. Marc Amoyel, University College London
Feb 2020	Invited speaker, hosted by Dr. Martin Blaser, Rutgers University
Jan 2020	Invited speaker, hosted by Dr. Nancy Hollingsworth, Stony Brook University
Jan 2020	Invited speaker, hosted by Dr. Sasha Sorkin, University of Pittsburgh
Oct 2019	Selected trainee talk, 12 <sup>th</sup> Annual Developmental Genetics Symposium, NYU
Mar 2019	Platform talk, 60 <sup>th</sup> Annual Drosophila Research Conference
Oct 2018	Invited speaker, HHMI Scholars Program series, University of Maryland, Baltimore County
Aug 2017	Invited speaker, hosted by Dr. Bruno Lemaitre, EPFL, Switzerland
Aug 2017	Invited speaker, hosted by Dr. François Karch, University of Geneva
Aug 2017	Platform talk, Protein Synthesis & Translation Control conference, EMBL (Heidelberg)
May 2017	Invited speaker, hosted by Dr. Mary Baylies, MSKCC, New York
Mar 2017	Platform talk, 58 <sup>th</sup> Annual Drosophila Research Conference
Nov 2014	Invited speaker, hosted by Dr. Azad Gućwa, Long Island University, NY

## POSTER PRESENTATIONS

Sep 2020	Annual Translational control conference, CSHL
Jul 2016	The Allied Genetics Conference, Orlando, FL
Nov 2011	Annual Glycobiology conference, Seattle, WA
May 2011	The Gordon Research Conference on Glycobiology, Lucca, Italy
Nov 2010	Annual Glycobiology conference, St. Pete's beach, FL
Nov 2009	Annual Glycobiology conference, San Diego, CA

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## TEACHING & MENTORING

Feb 2021-present	Mentoring an NYU undergraduate student, Grace Tang.
Sep 2018 present	Mentoring a graduate student, Kristoffer Walsh, currently a Ph.D. student in the Ryoo lab at NYU Medical Center
May-Aug 2018	Mentored a summer student, Kai Xi Chen, currently a sophomore at Cornell University.
Jul 2017-Mar 2020	Mentored and co-authored a paper with an NYU undergraduate student, Amy Yang, now a PA student.

May-Oct 2016	Mentored a summer volunteer student, Ishwar Navin, currently pursuing a Ph.D. at Baylor College of Medicine.
Oct 2015-Jun 2016	Trained and co-authored a paper with a research technician, Jessica Sam, currently pursuing a Ph.D. at Weill Cornell Medical Center.
Jun-Aug 2015	Mentored a rotation student, Brian Brown, currently an M.D.-Ph.D. student at the NYU Medical Center.
Sep 2010-May 2012	Mentored a high school student, Puja Bansal, currently a graduate student at University of Pittsburgh.
Sep 2010-May 2012	Mentored an undergraduate student, Artem Serganov, currently a Ph.D student at Rockefeller University.
Jun-Sep 2009	Mentored a high school student, Purumeh Nam, currently an Ophthalmology resident at Korea University Medical Center.
Fall 2007-Spring 2006	Teaching assistant, Cell Biology/Biochemistry, Stony Brook University Led regular discussion sections, held office hours, discussed course structure with instructors, graded assignments.
Aug 2005-May 2006	Teaching assistant, Lab to Industrial scaling/Advanced PERL programming Prepared teaching materials, designed tests and quizzes, led discussion sections.

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## CERTIFICATIONS & PROFESSIONAL ACTIVITIES

- Statistical Methods in Functional Genomics course, CSHL, July 2018
  - Science Communication workshop, Arthur L. Carter Journalism Institute, Oct 2018
  - Scientists Training as Academic Researchers (STAR) workshop, NYU, Fall 2017
  - Summer Coding Club, Applied Bioinformatics Laboratories, NYU, Summer 2017
  - Bioinformatics Winter Intensive Workshop, NYU HiTS, Jan 2016
  - Individual Development Planning course, NYU STEP and Postdoc Program, Fall 2014
  - Fundamentals of Teaching, NYU STEP and Postdoc Program, Fall 2014
  
  - Member: Genetics Society of America (2015-present)  
Society of Developmental Biology (2020-present)  
American Heart Association (2016-present)  
National Postdoctoral Association (2015-present)
  - Reviewer: (with Hyung Don Ryoo) Nature communications, PLoS Genetics, Molecular Cell Biology, Review Commons
  - Associate reviewer (2015-present): Faculty of 1000
  - Poster judge: The Allied Genetics Conference, Genetics Society of America, Jul 2016
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