

## Ameya Pranav Jalihal

PhD, Cellular and Molecular Biology

Postdoc, UNC Chapel Hill

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## Education

Degree	GPA	Year
PhD, Cellular and Molecular Biology, U of M, Ann Arbor	4.0 / 4.0	2015-2020
B.Tech(Biotech.), SASTRA, Thanjavur, India	8.87 / 10	2011-2015

## Awards and Fellowships

<i>Postdoctoral</i>	NIGMS F32 2022-2024
<i>Graduate</i>	Travel award, FORCE11 Scholarly Comm. Institute (FSCI), UCLA 2019 Honorable Mention, Poster Presentation, Annual CMB Symposium 2018, 2019 Honorable mention, NSF GRFP, 2017 Conference Travel Grant, Rackham Graduate School, 2017 Pre-Candidate Fellowship, Rackham Graduate School, 2016 Bernard Maas Fellowship, 2015
<i>Past</i>	Khorana Scholarship, 2014 Indian Academy of Sciences Summer Fellowship, 2014 Department awards 2011-15; Dean's List, 2011, 2012

## Research Interests

Single-molecule fluorescence microscopy, localization and function of RNA-protein machines inside cells.

## Publications

1. [In preparation] Jalihal, A.P., Pitchiaya S., Li H.,..., Walter, N.G. Higher-order assembly and 3D target search by RISC leads to efficient mRNA repression.
2. Duran E., Schmidt A.S., Welty R., Jalihal, A.P., Pitchiaya S. and Walter, N.G. (2023) Utilizing functional cell-free extracts to dissect ribonucleoprotein complex biology at single-molecule resolution. *Wiley Interdiscip Rev RNA*. e1787
3. Lin A., Ruff K.M., Jalihal A.P., Dar F., King M.R., Lalmansingh J.M., Posey A.R., Gladfelter A.S., Pappu R.V. (2023) Dynamical control enables the formation of demixed biomolecular condensates. *Nat. Comm.* 14 (1), 7678
4. Snead W.T., Jalihal A.P., Gerbich T.M., Seim I., Hu Z., Gladfelter, A.S. (2022) Membrane surfaces regulate assembly of ribonucleoprotein condensates. *Nature Cell Biology*. 24 (4), 461-470
5. Jalihal, A.P., Schmidt A.S., Gao G., Little S., Pitchiaya S. and Walter, N.G. (2020) Hyperosmotic phase-separation: Condensates beyond inclusions, granules and organelles. *JBC Reviews* 296
6. Jalihal, A.P., Xiao, L., Bawa, P., Jiang, X., Bedi, K., Cieslik, M., Ljungman, M., Chinnaiyan, A.M., Pitchiaya, S. and Walter, N.G. (2020) Multivalent proteins rapidly and reversibly phase-separate upon osmotic cell volume change. *Molecular Cell*. 79, 1-13 Highlighted as a Preview in Molecular Cell, September 2020.

7. Schmidt, A., Gao, G., Little, S.R., Jaliha, A.P., and Walter, N.G. (2020) Following the messenger: Recent innovations in live cell single molecule fluorescence imaging. *WIREs RNA*, e1587.
8. Pitchiaya, S., Mourao, M.D.A., Jaliha, A.P., Xiao, L., Jiang, X., Chinnaiyan, A.M., Schnell, S. and Walter, N.G. (2019) Dynamic recruitment of single RNAs to processing bodies depends on RNA functionality. *Mol. Cell* 74, 521-533. Highlighted as a Preview in Molecular Cell.
9. Jaliha, A.P., Lund, P.E. and Walter, N.G. (2019) Coming together: RNAs and proteins assemble under the single molecule fluorescence microscope. In *The RNA Worlds: New Tools for Deep Exploration*, pp. 451-470 (Ed. T.R. Cech, J.A. Steitz & J.F. Atkins), *Cold Spring Harb. Perspect. Biol.* 11, a032441.
10. Michelini F, Jaliha, A.P., Francia, S., Meers, C., Neeb, Z. T., Rossiello, F., Gioia, U., Aguado, J., Luke, B., Biamonti, G., Nowacki, M., Storici, F., Carninci, P., Walter, N.G. and d'Adda di Fagagna, F. (2018) From “cellular” RNA to “smart” RNA: multiple roles of RNA in genome stability. *Chem. Rev.* 118, 4365-4403.
11. Ray JCJ, Wickersheim ML, Jaliha, A.P., Adeshina, Y.O., Cooper, T.F., Balázs, G. 2016. Cellular growth arrest and persistence from enzyme saturation. *PLOS Comp Biol* 12(3):e1004825

## Conferences

[Poster] ASCB Annual Meeting, Boston	2023
<i>“Polarized hyphal growth is controlled by a condensate that regulates spatial protein”.</i>	
Authors: Jaliha AP, Gladfelter AS	
[Poster] ASCB Annual Meeting, Washington DC	2022
<i>“Local translation in a multinucleate fungus”.</i>	
Authors: Jaliha AP, Gladfelter AS	
[Poster] Fungal Genetics Meeting, Asilomar CA	2022
<i>“Local translation in a multinucleate fungus”.</i>	
Authors: Jaliha AP, Gladfelter AS	
[Poster] Biophysical Society Meeting, San Diego, CA	2020
<i>“Macromolecular condensation facilitates largely 3D mRNA target search by microRNAs”.</i>	
Authors: Jaliha AP, Li H, Pitchiaya S, Walter NG	
[Oral] Biophysical Society Meeting, Baltimore, MD	2019
<i>“Multimeric proteins reversibly form condensates upon osmotic compression”.</i>	
Authors: Jaliha AP, Pitchiaya S, Walter NG	
[Oral] RNA Society Meeting, University of California, Berkeley	2018
<i>“Intracellular single particle tracking of miRNA induced silencing complexes and mRNAs reveals sub-stoichiometric, transient binding and induced target aggregation”.</i>	
Authors: Jaliha AP, Li H, Walter NG	
[Oral] RNA Society Meeting, Prague, Czech Republic	2017
<i>“Microscopically visible liquid droplet P-bodies contribute minimally to miRNA mediated gene silencing”.</i>	
Authors: Pitchiaya S, Jaliha AP, Max Denies, Mourao M, Schnell S, Walter NG	
[Poster] Phase Separation Meeting, San Diego, CA	2017
<i>“Characterizing hypertonicity induced P-Body aggregation”.</i>	
Authors: Pitchiaya S, Jaliha AP, Max Denies, Walter NG	
[Poster] Rustbelt RNA Meeting, Cleveland, OH	2016
<i>“Microscopically visible P-bodies contribute minimally to miRNA-mediated gene silencing”.</i>	
Authors: Pitchiaya S, Jaliha AP, Mourao M, Schnell S, Walter NG	

## Workshops and Courses

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2023	CSHL Yeast Genetics and Genomics Course
2021	OpenScapes Open Data Science Workshop
2019	FORCE11 Scholarly Communication Institute, UCLA
2018	ComSciCon-Michigan

## Past Research Experiences

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### Undergraduate thesis project, University of Kansas

Winter 2015

*Design and implementation of synthetic genetic circuit in E. coli to study effect of bacterial cytosolic memory on growth phenotypes based on the Landauer Principle.*

*Mentor: Dr. Christian Ray.*

### Khorana Scholarship, Rice University

Summer 2014

*Computational modeling of the role of stochastic frequency modulated pulses of alternative sigma factor transcription in bacterial stress response.*

*Mentor: Dr. Oleg Igoshin.*

### IISER Mohali Summer Internship

Summer 2013

*Characterizing the functional role of cell adhesion molecules at neural synapses in learning and memory formation in C. elegans.*

*Mentor: Dr. Kavita Babu*

### Research Science Initiative-Chennai

Summer 2010

*Qualitative analysis of lipase producing bacteria.*

*Mentor Dr. P. Gautam*

## Activites

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<i>Seminars</i>	Social media coordinator for Stochastic Gallery Science-Art Seminar Series 2021 Organized CMB Short Course, Fall 2019 and hosted Dr. Brenda Bass 2019
<i>Mentorship</i>	UNC: Mentored rotation student, Fall 2021 UM: Mentored five rotators (PIBS) and two undergraduate researchers, 2017-19
<i>Teaching</i>	Teaching Assistant, MBL Physiology Course '22, '23. GSI, CDB530 Fall '18; FFGSI CHEM125/126 Winter '20
<i>Service</i>	Assisted with reviewing articles for PLOS ONE, Cell Reports Highly involved in recruiting graduate students for PIBS/CMB, 2017-20
<i>Organizations</i>	President (2017), Treasurer ('16-19), Assoc. of Multicultural Scientists, '16-19 Member, Website and Recruitment Committees of CMB Program, '17-20
<i>Outreach</i>	Teaching Assistant for Computational Biology Summer Camp 2016, mirCore Science demonstrations volunteer at Michigan Science Center, Detroit, 2015-17
<i>Past</i>	Head of the Dramatics Club "The Studio" (script writing, direction) 2014-15 Founded "Science Arattai", An undergraduate science forum, 2014