

Sushant Bangru

Curriculum Vitae

Dept of Cell Biology, Duke University
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Education

- 2021- **Postdoctoral Fellow** in Cell Biology, Duke University
Advisor: Kenneth Poss, Ph.D. & Stefano Di Talia, Ph.D.
- 2015-21 **Ph.D.** in Biochemistry, University of Illinois, Urbana-Champaign
Advisor: Auinash Kalsotra, Ph.D.
- 2011-15 **B.Sc.(Research)** in Biological Sciences (major), Indian Institute of Science, Bangalore
Advisor: Desirazu N. Rao, Ph.D.

Fellowships & Grants

- 2021-23 CAGT Genome Technology Postdoctoral Fellowship
Center for Advanced Genomic Technology, Duke University
- 2020-21 Graduate College Dissertation Completion Fellowship
Department of Biochemistry, University of Illinois, Urbana-Champaign
- 2018-20 NIH TiMe T32 Tissue Microenvironment Fellowship (T32EB019944)
Beckman Institute, University of Illinois, Urbana-Champaign
- 2015-16 Ulliyot Fellowship
School of Molecular and Cellular Biology, University of Illinois, Urbana-Champaign
- 2010-15 Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship
National Science Fellowship, Department of Science and Technology, Government of India

Publications *Equal contribution

Peer-reviewed articles

- 17) Ando, K., Ou, J., Thompson, J., Welsby, J., **Bangru, S.**, Shen, J., Wei, X., Diao, Y., & Poss, K.D. (2023). A screen for regeneration-associated silencer regulatory elements in zebrafish. *Developmental Cell*, In press.
- 16) Piersma, S.*, **Bangru, S.***, Yoon, J., Liu, T.W., Yang, L., Hsieh, C.S., Plougastel-Douglas, B., Kalsotra, A. & Yokoyama, W. (2023). NK cell expansion requires HuR and mediates innate immune control of solid tumors and long-term virus infection. *Journal of Experimental Medicine*, 220(11):e20231154.
- 15) Srivastava, I., Lew, B., Wang, Y., Blair, S., George, M.B., Hajek, B.S., **Bangru, S.**, Pandit, S., Wang, Z., Ludwig, J., Flatt, K., Gruebele, M., Nie, S., & Gruev, V. (2023). Cell-membrane coated nanoparticles for tumor delineation and qualitative estimation of cancer biomarkers at single wavelength excitation in murine and phantom models. *ACS Nano*, 17(9):8465-8482.

- 14) Chembazhi, U.V., Tung, W.S., Hwang, H., Wang, Y., Lalwani, A., Nguyen, K.L., **Bangru, S.**, Yee, D., Chin, K., Yang, J., Kalsotra, A., & Mei, W. (2023). PTBP1/HNRNP I controls intestinal epithelial cell regeneration by maintaining stem cell survival and stemness. *Nucleic Acids Research*, gkad042.
- 13) Arif, W., Mathur, B., Saki M.F., Chembazhi, U.V., Toohill, K., Song, Y.J., Hao, Q., Karimi, S., Blue, S.M., Yee, B.A., Van Nostrand, E.L., **Bangru, S.**, Guzman, G., Yeo, G.W., Prasanth, K.V., Anakk, S., Cummins, C., & Kalsotra, A. (2022). Splicing factor SRSF1 deficiency in the liver triggers NASH-like pathology via R-loop induced DNA damage and cell death. *Nature Communications*, 14(1):551
- 12) Sonam, S.*, **Bangru, S.***, Perry, K.J., Chembazhi, U.V., Kalsotra, A., & Henry, J.J. (2022). Cellular and molecular profiles of larval and adult *Xenopus* corneal epithelia resolved at the single-cell level. *Developmental Biology*, 491, 13-20.
- 11) Peng, J., Serrano, G., Traniello, I.M., Calleja-Cervantes, M.E., Chembazhi, U.V., **Bangru, S.**, Ezponda, T., Rodriguez-Madoz, J.R., Kalsotra, A., Prosper, F., Ochoa, I., & Hernaez, M. (2022). A single-cell gene regulatory network inference method for identifying complex regulatory dynamics across cell phenotypes. *Communications Biology*, 5(1):351.
- 10) Chembazhi, U.V.*, **Bangru, S.***, Hernaez, M., & Kalsotra, A. (2020). Cellular plasticity balances metabolic and proliferation dynamics of a regenerating liver. *Genome Research*, 31(4), 576-591.
- 9) Kumar, S., **Bangru, S.**, Kumar, R., & Rao, D. (2020). Promiscuous DNA cleavage by HpyAll endonuclease is modulated by the HNH motif catalytic residues. *Bioscience Reports*, bsr20201633.
- 8) Sun, Q., Hao, Q., Lin, Y.C., Song, Y.J., **Bangru, S.**, Arif, W., Tripathi, V., Zhang, Y., Cho, J.H., Freier, S.M., Jenkins, L.M., Ma, J., Yoon, J.H., Kalsotra, A., Lal, A., Prasanth, S.G., & Prasanth, K.V. (2020). Antagonism between Splicing and Microprocessor complex Dictates the Serum-induced Processing of Lnc-MIRHG for Efficient Cell Cycle Re-entry. *RNA*, rna.075309.120.
- 7) Srivastava, I., Misra, S.K., **Bangru, S.**, Boateng, K.A., Soares, J.A.N.T., Schwartz-Duval, A.S., Kalsotra, A., & Pan, D. (2020). Complementary Oligonucleotide Conjugated Multicolor Carbon Dots for Intracellular Recognition of Biological Events. *ACS Applied material & Interfaces*, 12(14), 16137-16149.
- 6) **Bangru, S.**, & Kalsotra, A. (2020). Cellular and molecular basis of liver regeneration. *Seminars in Cell & Developmental Biology*, 100, 74-87.
- 5) Hyun, J., Sun, Z., Ahmadi, A.R., **Bangru, S.**, Chembazhi, U.V., Du, K., Chen, T., Tsukamoto, H., Rusyn, I., Kalsotra, A., & Diehl, A.M. (2020). ESRP2-mediated alternative splicing reprograms hepatocytes in severe alcoholic hepatitis. *Journal of Clinical Investigation*, 130(4), 2129-2145.
- 4) Misra, C., **Bangru, S.**, Lin, F., Lam, K., Koenig, S., Lubbers, E., Hedhli, J., Murphy, N., Parker, D.J., Dobrucki, W.L., Cooper, T.A., Tajkhorshid, E., Mohler, P., & Kalsotra, A. (2020). Aberrant Expression of a Non-muscle RBFOX2 Isoform Triggers Cardiac Conduction Defects in Myotonic Dystrophy. *Developmental Cell*, 52(6), 748-763.
- 3) Seimetz, J., Arif, W., **Bangru, S.**, Hernaez, M., & Kalsotra, A. (2019). High resolution and cell-type specific polysome profiling from tissues. *Methods*, 155, 131-139.
- 2) **Bangru, S.***, Arif, W.*, Seimetz, J., Bhate, A., Chen, J., Rashan, E.H., Carstens, R.P., Anakk S., & Kalsotra, A. (2018). Alternative Splicing rewires Hippo Signaling pathway in hepatocytes to promote liver regeneration. *Nature Structural & Molecular Biology*, 25(10), 928-939.
- 1) **Bangru, S.**, & Kalsotra, A. (2016). Advances in analyzing RNA diversity in eukaryotic transcriptomes: peering through the Omics lens. *F1000Research*, 5:2668.

— Works in preparation/ In review —

- 4) **Bangru, S.**, Chen, J., Chembazhi, U.V., Arif, W., Alencastro, F., Duncan, A.W., Carstens, R.P., & Kalsotra, A. (2023). ESRP2-miR-122 axis regulates the postnatal onset of polyploidization in murine hepatocytes.
- 3) Gillotay, P., Mirian, R., **Bangru, S.**, Dassy, B., Haerlingen, B., Shankar, M.P., Fonseca, B.F., Ziros, G.P., Singh, S.P., Sykiotis, P.S., & Costagliola, S. (2023). NRF2/nrf2a promotes maturation and hormone synthesis in mammalian and non-mammalian thyroid.
- 2) Goo, Y.H., Ayyappan, J.P., Cheeran, F.D., **Bangru, S.**, Saha, P.K., Baar, P., Schulz, S., Lydic, T.A., Spengler, B., Wagner, A.H., Kalsotra, A., & Paul, A. (2023). Lipid droplet-associated hydrolase mobilizes stores of liver X receptor sterol ligands and protects against atherosclerosis.
- 1) Zhou, W., Chembazhi, U.V., Huang, J., **Bangru, S.**, Dean, A.E., Kalsotra, A., Rudnick, D.A., & Anakk, S. (2023). Excess bile acid increase after partial hepatectomy in constitutive androstane receptor knockout mice drives regeneration.

Awards

- 2022 Conference Travel Award
Annual RNA society meeting, Boulder, Colorado
- 2020 Conference Travel Award - Cancelled March 2020 (Covid19 pandemic)
Annual RNA society meeting, Vancouver, BC
- 2019 Colin A. Wraight Award
Best Research paper in Biochemistry, University of Illinois, Urbana-Champaign
- 2018 Poster presentation Award
RNA Rustbelt Meeting 2018, Columbus, Ohio
- 2018 RNA Society Conference Travel Award
International Society for Computational Biology Conference, Chicago, Illinois
- 2017 Graduate College Travel Award
Department of Biochemistry, University of Illinois, Urbana-Champaign
- 2014 TN Khoshoo Ecology and Environment Award
Annual WIPRO Earthian Competition

Mentoring Experience

- 2016-19 Jackie Chen, Undergraduate, Department of Biochemistry, UIUC, Class of 2018
Current Position: Graduate student, University of Wisconsin, Madison
Best Undergraduate Poster Award, RNA rustbelt meeting, Indiana, October 2017.
Award for Best Undergraduate Thesis in Biochemistry, 2018.
- 2019-21 Jan Uy, Undergraduate, Department of Biochemistry, UIUC, Class of 2022
MCB Summer Research Fellowship 2020
- 2022-23 Demi Wang, Undergraduate, Department of Cell Biology, Duke University, Class of 2023

Teaching Experience

- Spring 2022 Instructor, BIOTRAIN754 The Responsible Scientist II, Duke University
- Spring 2018 Teaching Assistant, MCB354 Biochemical & Physical Basis of Life, UIUC
- Fall 2017 Teaching Assistant, MCB354 Biochemical & Physical Basis of Life, UIUC
- Fall 2016 Teaching Assistant, MCB450 Introductory Biochemistry, UIUC

Spring 2015 Teaching Assistant, UES307 Introduction to Solid Earth, IISc

Oral Presentations

- Aug 2021 CSHL Eukaryotic mRNA processing, Online platform
- Feb 2019 Keystone Symposia (RNA-protein interactions X1), Whistler, British Columbia
- Apr 2018 Tissue Micro-environment Symposium, Urbana, Illinois
- Oct 2017 RNA Rustbelt meeting, Indianapolis, Indiana

Poster Presentations

- Oct 2022 RNA Rustbelt meeting, Cleveland, Ohio
- Jun 2022 Annual RNA Society meeting, Boulder, Colorado
- Sep 2021 RNA Rustbelt meeting, Online platform
- May 2021 Annual RNA Society Meeting, Online platform
- May 2020 Annual RNA Society Meeting, Online platform
- Oct 2019 RNA Rustbelt meeting, Cleveland, Ohio
- Oct 2018 RNA Rustbelt meeting, Columbus, Ohio
- Jul 2018 GRC post-transcriptional gene regulation, Newry, Maine
- Jul 2018 International Society for Computational Biology Annual Meeting, Chicago, Illinois
- Aug 2017 CSHL Eukaryotic mRNA processing, Cold Spring Harbor, New York
- Oct 2016 RNA Rustbelt meeting, Cleveland, Ohio
- Jul 2016 GRC post-transcriptional gene regulation, Stowe, Vermont

References

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