**­­­VENKATA VIVEK REDDY PALICHARLA**

**Office**  **Residence**

Department of Cell Biology 5225 Fleetwood Oaks Ave

UT Southwestern Medical Center Apt 527

Dallas TX 75235 Dallas TX 75235

E-mail: [VenkataVivekReddy.Palicharla@utsouthwestern.edu](mailto:VenkataVivekReddy.Palicharla@utsouthwestern.edu) Ph: +1 4023056451

[Vivek.Palicharla@gmail.com](mailto:Vivek.Palicharla@gmail.com)

# EDUCATION

**Year** **Degree**  **Field/Subject**

2016 **Ph.D** Biochemistry

Lab of Cell Death and Cell Survival (LCDCS)

Center for DNA Fingerprinting & Diagnostics (CDFD)

Hyderabad, India

(Manipal Academy of Higher Education (MAHE)

Manipal, India)

2009 **Master of Science (M.Sc)** Biotechnology

Pondicherry University, Puducherry, India

2007 **Bachelor of Science (B.Sc)** Biology

Sri Venkateswara University, Tirupati, India

# RESEARCH EXPERIENCE

**Training Project**

**Assistant Instructor** (Sep 2023-) Targeting protein trafficking into the primary cilium

as a strategy to treat ciliopathies

**Postdoctoral Fellow** (2017- Aug 2023) Studying mechanisms of protein trafficking into

Supervisor: Saikat Mukhopadhyay the primary cilium

Associate Professor,

Dept. of Cell Biology

UT Southwestern Medical Center, Dallas TX

**PhD** (2010-2016) Investigating the role of HACE1 E3 ubiquitin

Supervisor: Maddika Subba Reddy ligases in distinct cellular processes

Lab of Cell Death and Cell Survival

CDFD, Hyderabad, India

**Indo-French PhD exchange program** (2014) Identification of HECT E3 ligases involved in

Supervisor: Evi Soutoglou, IGBMC, France DSB repair

**Masters dissertation (**2008-09) Characterization of quorum sensing

Supervisor: Dr. Prashanth Kenchappa acyl-homoserine lactones produced by

Pondicherry University, India Acinetobacter baumannii

**Summer research training** (2008) Development of an Assay System to study the

Supervisor: Dr. M K Bhattacharyya role of P. falciparum Mre11 in DNA repair

University of Hyderabad, India

**PUBLICATIONS**

**1.** Hoppe, N., Harrison, S., Hwang, S.H., Chen, Z., Karelina, M., Deshpande, I., Suomivuori, C.M., **Palicharla, V.R.**, Berry, S.P., Tschaikner, P., Regele, D., Covey, D.F., Stefan, E., Marks, D.S., Reiter, J., Dror, R.O., Evers, A.S., Mukhopadhyay, S.\*, Manglik, A.\* GPR161 structure uncovers the redundant role of sterol-regulated ciliary cAMP signaling in the Hedgehog pathway. bioRxiv. 2023 May 24;. doi: 10.1101/2023.05.23.540554. PubMed PMID: 37292845. (Accepted, in Press in **Nat Str Mol Biol.**)

**2.** Jiang, M., **Palicharla, V.R.**, Miller, D., Hwang, S.H., Zhu, H., Hixson, P., Mukhopadhyay, S.\*, and Sun, J.\* (2023). Human IFT-A complex structures provide molecular insights into ciliary transport. **Cell Research** DOI: 10.1038/s41422-023-00778-3. PMID: 36775821.

- *Highlighted in Science Daily, Bioengineer.org, Phys.org, Newswise, Technology Networks,*

*Knowledia, News Azi, Swift Telecast.*

**3. Palicharla, V.R**., Hwang, S.H., Somatilaka, B.N., Legue, E., Shimada, I.S., Familiari, N.E., Tran, V.M., Woodruff, J.B., Liem, K.F., Jr., and Mukhopadhyay, S. (2023). Interactions between TULP3 tubby domain and ARL13B amphipathic helix promote lipidated protein transport to cilia. **Mol Biol Cell** Mar 1; 34(3):ar18. DOI: 10.1091/mbc.E22-10-0473. PMID: 36652335.

*- Highlighted in MBoC.*

*- Highlighted in MBoC Incytes*

*- MBoC Cover Vol 34, Number 4, 2023.*

*(*[*https://www.molbiolcell.org/doi/suppl/10.1091/mboc.2023.34.issue-4/suppl\_file/cover.pdf*](https://www.molbiolcell.org/doi/suppl/10.1091/mboc.2023.34.issue-4/suppl_file/cover.pdf)*)*

**4**. Walker, R.V., Maranto, A., **Palicharla, V.R.**, Hwang, S.H., Mukhopadhyay, S., and Qian,F. (2022). Cilia localized counterregulatory signals as drivers of renal cystogenesis. **Front Mol Biosci** 9:936070. PMID: 35832738.

**5**. Khamirani, H.J.\*, **Palicharla, V.R.**\*, Dastgheib, S.A., Dianatpour, M., Imanieh, M.H., Tabei, S.S., Besse, W., Mukhopadhyay, S., and Liem Jr, K.F. (2022). A pathogenic variant of TULP3 causes renal and hepatic fibrocystic disease. **Frontiers in Genetics** 13:1021037. PMID: 36276950.

*\*Equal contribution*

**6**. Somatilaka, B.N., Hwang, S.H., **Palicharla, V.R.,** White, K.A., Badgandi, H., Shelton, J.M., and Mukhopadhyay, S. (2020). Ankmy2 Prevents Smoothened-Independent Hyperactivation of the Hedgehog Pathway via Cilia-Regulated Adenylyl Cyclase Signaling. **Dev. Cell** 54, 710-726. PMID: 32702291.

**7**. Hwang, S.H., Somatilaka, B.N., Badgandi, H., **Palicharla, V.R.**, Walker, R., Shelton, J.M., Qian, F., and Mukhopadhyay, S. (2019). Tulp3 regulates renal cystogenesis by trafficking cystoproteins to cilia. **Current Biology** 29(5), 790-802.e5. PMID: 30799239.

**8**. **Palicharla, V.R.**\*, Gupta, D.\*, Bhattacharya, D., and Maddika, S. (2021). Ubiquitin-independent proteasomal degradation of Spindlin-1 by the E3 ligase HACE1 contributes to cell-cell adhesion. **FEBS Letters** 595, 491-506. PMID: 33421097.

*\* Equal contribution*

**9**. **Palicharla, V.R.,** and Maddika. S. (2015). HACE1 mediated K27 ubiquitin linkage leads to YB-1 protein secretion. **Cellular Signalling** 27 (12), 2355–2362. PMID 26343856.

**10**. Jain, M.V., Paczulla, A.M., Klonisch, T., Dimgba, F.N., Rao, S.B., Roberg, K., Schweizer, F., Lengerke, C., Davoodpour, P., **Palicharla, V.R.**, Maddika, S., and Łos, M. (2013). Interconnections between apoptotic, autophagic and necrotic pathways: implications for cancer therapy development. **J. Cell. Mol. Med**. 17, 12-29. PMID: 23301705.

**11**. Maddika, S., Kavela, S., Rani, N., **Palicharla, V.R.**, Pokorny, J.L., Sarkaria, J.N., and Chen, J. (2011). WWP2 is an E3 ubiquitin ligase for PTEN. **Nat. Cell. Biol**. 13, 728-733. PMID: 21532586.

**12**. Shashikala, P., **Palicharla, V.R.**, Prashanth, K., Kanungo, R., Devi, S., Anitha, P., Rajarajeshweri, N., and Meenu Cherian, T. (2011). Persistence of Nontoxigenic Corynebacterium diphtheriae Biotype Gravis Strains in Pondicherry, Southern India. **Journal of Clinical Microbiology** 49, 763-764. PMID: 21159931.

**13**. Prashanth, K., Rao, K.R., **Palicharla, V.R.,** Saranathan, R., and Makki, A.R. (2011). Genotypic Characterization of Staphylococcus aureus Obtained from Humans and Bovine Mastitis Samples in India. **Journal of Global Infectious Diseases** 3, 115-122. PMID: 21731296.

My Bibliography

<https://www.ncbi.nlm.nih.gov/myncbi/vivek%20reddy.palicharla.1/bibliography/public/>

Google Scholar profile link

<https://scholar.google.com/citations?user=WGzeEo4AAAAJ&hl=en>

**AWARDS**

2023 ASCB travel grant

2019-21 Postdoctoral fellowship from Polycystic Kidney Disease (PKD) foundation

<https://pkdcure.org/researcher-spotlight-venkata-vivek-reddy-palicharla-ph-d/>

2019 Society for Developmental Biology (SDB) travel grant

2019 Second best talk award at the FASEB SRC–The Biology of Cilia and Flagella meeting

2016 International Travel Fellowship from Science and Engineering Research Board

(SERB), India

2014 Raman-Charpak Indo-French PhD exchange fellowship, India and France (only 9

candidates selected nationwide)

2010-15 Junior/Senior Research Fellowship, University Grants Commission, India

2008 Summer Research Fellowship from Indian Academy of Sciences (IAS), India

2007-09 DBT Merit Fellowship from Department of Biotechnology, India

**PROFESSIONAL ACTIVITIES**

Reviewed papers for

Cellular and Molecular Life Sciences (CMLS); Review Commons; International Journal of Cancer; Medicine; 3biotech; Journal of Translational Medicine; Cancer Medicine.

**TECHNICAL EXPERTISE**

Model systems: Mammalian cell culture; Mouse models

Molecular biology: Conventional cloning and Gateway cloning technology; site directed mutagenesis (SDM); CRISPR editing. SiRNA and ShRNA mediated gene silencing; RNA isolation; RT-PCR; Luciferase reporter assays.

Biochemistry: AlphaScreen assays; Nano-Glo HiBit assays; protein-protein interactions; tandem affinity purification (TAP); proximity- dependent biotin identification (BioID method); immunoprecipitations; recombinant bacterial protein purifications; FPLC; Chemical crosslinking; Immunoblotting; Mass photometry; MicroScale Thermophoresis (MST)

Cell biology: CRISPR based knockout generation; Stable cell generation; Immunofluorescence; confocal microscopy; cell proliferation assays; apoptosis assays; flow cytometry; wound healing assays; transwell cell migration assays; soft agar colony formation assays; colony survival assays.

Mouse models: Basic handling; colony maintenance; Genotyping; IP injections; Intestinal dissection; protein and cAMP extraction and analysis from intestinal tissues.

**MENTORING EXPERIENCE**

During Phd tenure

Three master’s project students (Debjani Bhattacharyya, Kiranmayi Joshi, Ranita De)

Two summer project students (Vamanie Perumal, Chandrima Bagchi)

One Junior PhD student (Devanshi Gupta)

During Postdoc tenure

One pre-med student (Teja Sebastian)

One high school student (Anatupenda Daphrose)

One PhD rotation student (Hyung Bum Kim)

**RESEARCH PRESENTATIONS**

2023 Talk – ASCB Cell Bio 2023, Boston, MA, USA

2022 Poster – ASCB Cell Bio 2022, Washington DC, USA

2022 Poster – FASEB SRC: The biology of Cilia and flagella, Tucson, Arizona, USA

2021 Talk – ASCB Cell Bio virtual meeting 2021

2021 Poster – Polycystic Kidney disease connect conference (PKDCON) - Virtual

2019 Talk (awarded second best talk) – FASEB SRC: The biology of Cilia and flagella,

Snowmass, Colorado, USA

2018 Poster – ASCB, San Diego, California, USA

2019 Talk – Elevator Pitch presentation – UTSW PDA NPAW

2016 Poster – Frankfurt conference on ubiquitin, Frankfurt, Germany

2016 Poster – Ubiquitin and ubiquitin like modifications, NCBS, India

2015 Poster – EMBO conference on ubiquitin and ubiquitin like modifiers, Croatia

2015 Poster – MCB-75, Indian Institute of Science (IISc), India

2014 Poster – International Conference on Genome Architecture and Cell Fate Regulation

(GACFR), University of Hyderabad (UoH), India

2011 2nd International symposium on mass spectrometry, NCBS, India

**REFERENCES**

Dr. Saikat Mukhopadhyay - Postdoc mentor

Associate Professor

W.W. Caruth, Jr. Scholar in Biomedical Research

CPRIT Scholar in Cancer Research

Dept. of Cell Biology

UTSW Medical Center Dallas, TX 75235

Email: [Saikat.Mukhopadhyay@utsouthwestern.edu](mailto:Saikat.Mukhopadhyay@utsouthwestern.edu)

Dr. Subbareddy Maddika - PhD supervisor

Laboratory of Cell Death and Cell Survival

Centre for DNA Fingerprinting and Diagnostics

Shanti Swarup Bhatnagar Prize Awardee for Science and Technology 2022

Nampally, Hyderabad – 500001 INDIA

Email: [msreddy@cdfd.org.in](mailto:msreddy@cdfd.org.in)

Dr. Ji Sun - Collaborator

Structural Biology

St. Jude Children's Research Hospital

Memphis, TN 38105-3678

Email: [Ji.Sun@stjude.org](mailto:Ji.Sun@stjude.org)

Dr. Karel Liem - Collaborator

Associate professor of Pediatrics

Yale School of Medicine, New Haven, CT, USA

Email: [Karel.Liem@yale.edu](mailto:Karel.Liem@yale.edu)