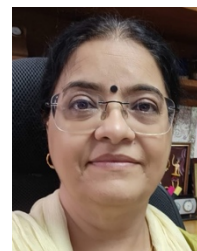


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Education and Training

- JRF, SSCU, Indian Institute of Science, Bengaluru (1991-1993)
- Ph.D. (1999), School of Chemistry, University of Hyderabad (Hyderabad), India
- Research Associate, Institute of Microbial Technology, 1998-1999
- Research Associate, University of Wisconsin, Madison, 2000-2001

Awards/ Honours

- SERB-POWER Fellowship, 2021
- Distinguished Alumnus Lecture (2019), School of Chemistry, University of Hyderabad
- National Women Bioscientists' Award, 2010
- UGC-Junior Research Fellowship (JRF)/ Senior Research Fellowship (SRF)
- Gold Medalist in Chemistry (M.Sc. Univ. of Hyderabad, 1991)
- Ranked all-India 4th in AISSE (1984)

Membership of Academic Bodies/ Societies

- Life member, Indian Biophysical Society
- Life member, Fluorescence Society
- Executive member, Protein Society

Teaching

- LS102A: Mathematics for Biologists
- LS405A: Chemistry of Macromolecules
- LS562: Biophysical Chemistry- Methods and applications
- LS601A: Research Methodology-I (Physicochemical principles in the context of Biology)

Broad Areas of Research Interest

GPI anchor biosynthesis in human pathogenic fungus *Candida albicans* and its comparison with *S. cerevisiae* and mammalian GPI biosynthetic pathways; Enzymology and biophysical chemistry

Major research projects completed: 15

Current research projects: 2

Publications in peer-reviewed journals: 67

Other articles: 4

Book chapters and other scientific publications: 4 (peer reviewed)

Ph. D. students supervised: 26 (degree awarded); 6 (Thesis in progress) **M. Phil supervised:** 1

Post-doctoral research supervised: 10

Masters and short-term project students: 74

Details of Scientific Research

ORCID ID: 0000-0002-0491-7102

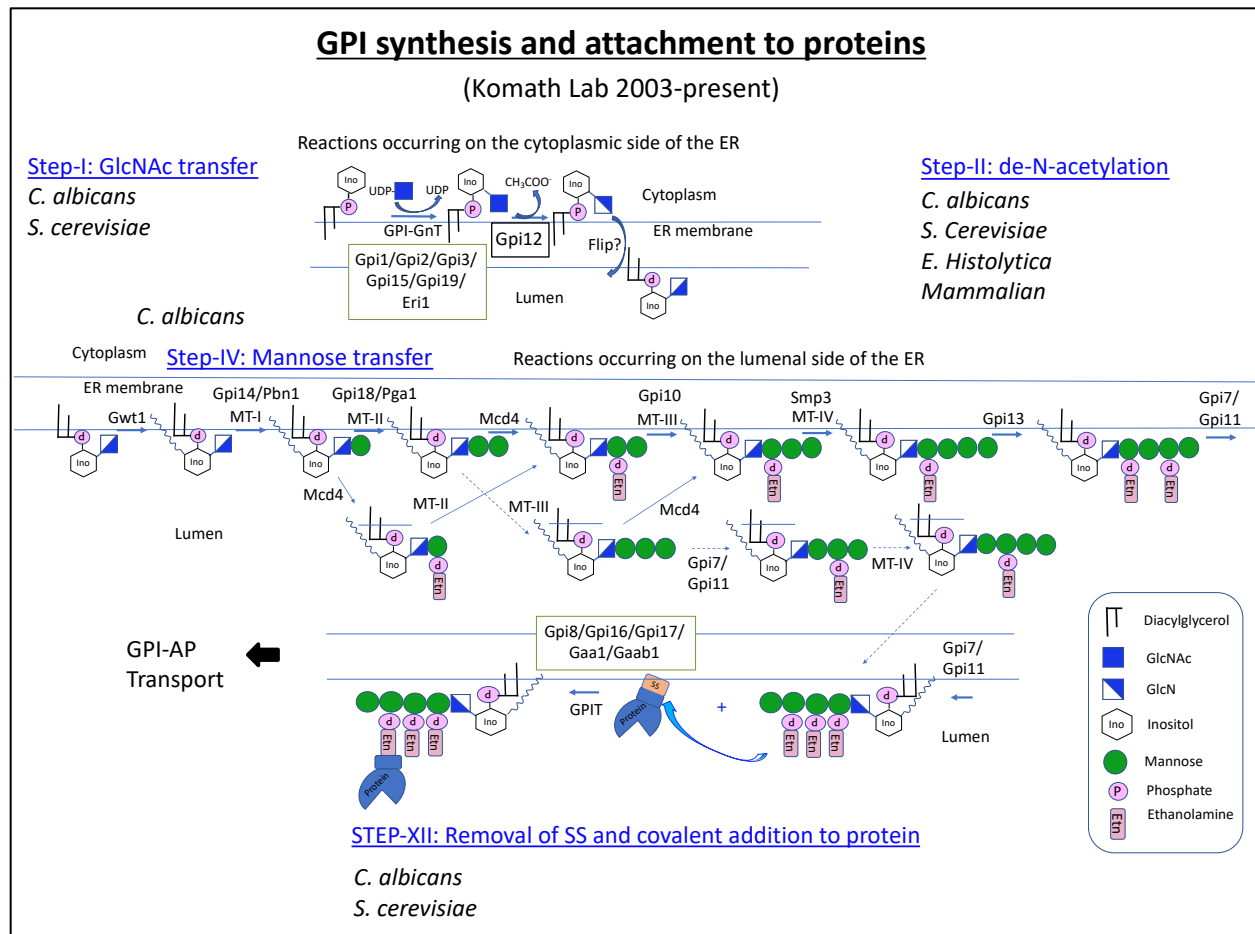


Figure: GPI biosynthetic pathway in yeast and fungi. GPI biosynthesis begins on the cytoplasmic face of the ER by the ER-localized GPI N-acetylglucosaminyl transferase (GPI-GnT) with transfer of GlcNAc from UDP-GlcNAc to PI. GlcNAc-PI is then deacetylated, sequentially decorated by 4 Man residues and 3 EtnP residues. The donor for mannose is Dol-P-Man and of EtnP is phosphatidylethaolamine in all cases. GPI-GnT has six subunits, Gpi1, Gpi2, Gpi3, Gpi15, Gpi19 and Eri1. Gpi12 is a deacetylase, Gwt1 an acyltransferase that attaches an acyl chain at 2-OH of inositol. The GPI intermediate must flip from the cytosolic to the luminal side of the ER for Gwt1 to act, but a specific flippase has not been identified. MT-I (Gpi14, Pbn1), MT-II (Gpi18, Pga1), MT-III (Gpi10) and MT-IV (Smp3) are the mannosyltransferases. Mcd4, Gpi7, Gpi11, Gpi13 are EtnP transferases. Gpi7 and Gpi11 act independently. GPIT is the transamidase consisting of subunits Gpi8, Gpi16, Gpi17, Gaa1 and Gab1, which removes the GPI attachment signal sequence from proteins and attaches a preformed GPI anchor to their C-terminal ends via a transamidation reaction. The most likely pathway and possible branched pathways are shown. Where evidence is not clear for a specific step, broken arrows, rather than solid arrows are shown. (Komath et al., 2018 IUBMB Life. 70(5):355-383.) The steps highlighted in blue represent the points of interest in the lab.

The main focus of the lab currently is **glycosylphosphatidylinositol (GPI) anchor biosynthesis in the human pathogen, *C. albicans***. The GPI anchor is a complex glycolipid anchor that is ubiquitously present in eukaryotes. An elaborate pathway of roughly 10-12 steps works sequentially to produce the precursor GPI anchor in the endoplasmic reticulum. It is then attached to the C-terminal ends of proteins that carry the GPI attachment signal sequence. A variety of proteins may be held by means of this anchor to the extracellular leaflet of the plasma membrane (and/ or cell wall). In lower eukaryotes the biosynthetic pathway leading to the formation of the complete GPI anchor is essential to the viability and functioning of

the organism, making it an attractive drug target; in higher eukaryotes it is critical at certain stages of organismal development, such as in embryogenesis, but not at others.

My lab has been working to understand the molecular details of this pathway. This task is particularly challenging given that it involves mostly multi-subunit membrane-bound enzymes. There are no commercially available substrates for most steps of the pathway and assay protocols that are successful for one system do not always work for another system.

Listed below are some of our major contributions to the field:

- We showed that the enzyme complex involved in the first step of GPI anchor biosynthesis in *C. albicans*, the GPI-*N*-acetylglucosaminyltransferase (GPI-GnT), is mutually co-regulated with ergosterol biosynthesis and drug-response in the organism. It is also closely linked to both Ras-dependent and Ras-independent cAMP-PKA signalling for hyphal morphogenesis. This has ramifications for controlling *C. albicans* infection and countering its drug-resistance. While controlling hyphal morphogenesis is seen as a key step towards controlling virulence in this pathogen, ergosterol and the sterol biosynthetic pathway are the most important targets for therapeutic intervention in controlling Candida infections. Current work is focused on better understanding the intra-subunit cross-talk as well as the mechanisms of the cross-talk of this step with ergosterol biosynthesis and Ras signaling in *C. albicans vis-à-vis S. cerevisiae*.
- We are also interested in comparing the active site of the enzyme involved in the second catalytic step of the pathway, the de-*N*-acetylation of GlcNAc-PI, between organisms. We showed that the *E. histolytica* de-*N*-acetylase is a close homologue of the yeast enzyme and exhibits a unique metal-independent general acid-base pair catalytic mechanism. In contrast the *C. albicans* homologue shows metal-dependent activity in cell-free systems. Current work is focused on studying the *C. albicans*, *S. cerevisiae*, *G. lamblis* and mammalian enzymes.
- Our work showed that *CaGPII4*, encoding the first mannosyltransferase step of the pathway, affects growth and hyphal morphogenesis of *C. albicans*. Hyphal morphogenesis is inhibited due to an upregulation of the *HOG1* pathway. We also showed that the cross-talk with ergosterol biosynthesis seen in the case of GPI-GnT is not effective at this step.
- A third line of enquiry in the lab is focused on understanding the GPI transamidation step and the role of signal sequences in GPI anchor attachment. We showed that the *C. albicans* Gpi8 subunit is a metal-dependent endopeptidase. We have developed a simple cell free assay to study this activity. Current work in this project is focused on better understanding the mechanism of its endopeptidase activity. In addition, we are studying the role of the other four subunits of the GPI Transamidase (GPIT) in the transamidase reaction as well exploring their essentiality for the cell. We also seek to understand the minimal characteristics of a GPI anchor attachment signal sequence that the transamidase can correctly process for GPI-attachment.

Research Publications (* Corresponding Author)

Research Papers/ Invited Review Articles

1. **Komath SS***. To each its own: Mechanisms of cross-talk between GPI biosynthesis and cAMP-PKA signaling in *Candida albicans* versus *Saccharomyces cerevisiae*. **J Biol Chem**. 2024 Jul;300(7):107444. doi: 10.1016/j.jbc.2024.107444. Epub 2024 Jun 4. PMID: 38838772; PMCID: PMC11294708.
2. Sethi SC, Bharati M, Kumar Y, Yadav U, Saini H, Alam P, **Komath SS***. The ER-Resident Ras Inhibitor 1 (Eri1) of *Candida albicans* Inhibits Hyphal Morphogenesis via the Ras-Independent cAMP-PKA Pathway. **ACS Infect Dis**. 2024 Aug 9. doi: 10.1021/acsinfecdis.4c00175. Epub ahead of print. PMID: 39119676.
3. Naithani S, **Komath SS**, Nonomura A, Govindjee G. Plant lectins and their many roles: Carbohydrate-binding and beyond. **J Plant Physiol**. 2021 Nov;266:153531. doi: 10.1016/j.jplph.2021.153531. Epub 2021 Sep 21. PMID: 34601337.
4. Lupo V, Won S, Frassetto M, Schnitzler MS, **Komath SS**, Pascual-Pascual SI, Espinós C, Svaren J, Sevilla T. 2020. Bi-allelic mutations in EGR2 cause autosomal recessive demyelinating neuropathy by disrupting the EGR2-NAB complex. **Eur J Neurol**. 2020 27(12):2662-2667. doi: 10.1111/ene.14512.
5. Nonomura AM, Shevela D, **Komath SS**, Biel KY, Govindjee G. (2020) The carbon reactions of photosynthesis: role of lectins and glycoregulation. *Photosynthetica* 58(5): 1090-1097. DOI: 10.32615/ps.2020.064
6. Sah SK, Shefali S, Yadav A, Som P, **Komath SS***. 2020. The caspase-like Gpi8 subunit of *Candida albicans* GPI transamidase is a metal-dependent endopeptidase. **Biochem Biophys Res Commun**. 23 April 2020, 525(1):61-66.
7. Chandraker A, **Komath SS***. 2020. Expression, purification, and characterization of N-acetylglucosaminylphosphatidylinositol de-N-acetylase (ScGpi12), the enzyme that catalyses the second step of GPI biosynthesis in *S. cerevisiae*. **Yeast**. 2020 Jan;37(1):63-72. doi: 10.1002/yea.3457. Epub 2019 Dec 29.
8. Parveen S, Singh, S and **Komath SS***. 2019. *Saccharomyces cerevisiae* Ras2 restores filamentation but cannot activate the first step of GPI anchor biosynthesis in *Candida albicans*. **Biochem. Biophys. Res. Commun**. 517(4):755-761. doi: 10.1016/j.bbrc.2019.07.128.
9. Jain P, Garai P, Sethi SC, Naqvi N, Yadav B, Kumar P, Singh SL, Yadav U, Bhatnagar S, Rahul, Puri N, Muthuswami R, **Komath SS***. 2019. Modulation of azole sensitivity and filamentation by Gpi15, encoding a subunit of the first GPI biosynthetic enzyme, in *Candida albicans*. **Sci Rep**. 2019 Jun 11;9(1):8508. doi: 10.1038/s41598-019-44919-4.
10. Jain P, Sethi SC, Pratyusha VA, Garai P, Naqvi N, Singh S, Pawar K, Puri N, **Komath SS***. 2018. Ras signaling activates glycosylphosphatidylinositol anchor biosynthesis via the GPI-N-acetylglucosaminyl transferase (GPI-GnT) in *Candida albicans*. **J Biol Chem**. 293(31), 12222-12238. 10.1074/jbc.RA117.001225
11. Pratyusha VA, Victoria GS, Khan MF, Haokip DT, Yadav B, Pal N, Sethi SC, Jain P, Singh SL, Sen S, **Komath SS***. 2018. Ras hyperactivation versus overexpression: Lessons from Ras dynamics in *Candida albicans*. **Sci. Rep**. 2018 Mar 27;8(1):5248. doi: 10.1038/s41598-018-23187-8.

12. Yadav U, Rai T, Sethi SC, Chandraker A, Khan M, **Komath SS***. 2018. Characterizing *N*-acetylglucosaminylphosphatidylinositol de-*N*-acetylase (CaGpi12), the enzyme that catalyzes the second step of GPI biosynthesis in *Candida albicans*. **FEMS Yeast Res.** 18(7), foy067.
13. **Komath SS***, Singh SL, Pratyusha VA, Sah SK. 2018. Generating anchors only to lose them: The unusual story of glycosylphosphatidylinositol anchor biosynthesis and remodeling in yeast and fungi. **IUBMB Life.** 70(5):355-383. doi: 10.1002/iub.1734. Critical Review.
14. Soni S, Jain BP, Gupta R, Sudhakar D, Kar K, **Komath SS***, Goswami S.* 2018. Biophysical Characterization of SG2NA Variants and their Interaction with DJ-1 and Calmodulin *in vitro*. **Cell Biochem. Biophys.** 76(4):451-461.
15. Singh SL and **Komath SS***. 2017. Fluorescently Labelled Aerolysin (FLAER) Labelling of *Candida albicans* Cells. **Bio-protocol** 7(11): e2303. DOI: 10.21769/BioProtoc.2303.
16. Singh SL, Rai RC, Sah SK, **Komath SS***. 2016. The catalytic subunit of the first mannosyltransferase in the GPI biosynthetic pathway affects growth, cell wall integrity and hyphal morphogenesis in *Candida albicans*. 2016. **Yeast.** Aug;33(8):365-83. doi: 10.1002/yea.3179.
17. Gupta M, Mazumder M, Dhatchinamoorthy K, Nongkhlaw M, Haokip DT, Gourinath S, **Komath SS**, Muthuswami R. 2015. Ligand-induced conformation changes drive ATP hydrolysis and function in SMARCAL1. **FEBS J.** 282(19):3841-59. doi: 10.1111/febs.13382.
18. Shah AH, Rawal MK, Dhamgaye S, **Komath SS**, Saxena AK, and Prasad R. 2015. Mutational Analysis of Intracellular Loops Identify Cross Talk with Nucleotide Binding Domains of Yeast ABC Transporter Cdr1p. **Sci. Rep.** 5:11211. doi: 10.1038/srep11211.
19. Pawar K, Yadav A, Prasher P, Mishra S, Singh B, Singh P and **Komath SS***. 2015. Identification of an indole-triazole-amino acid conjugate as highly effective antifungal agent. **Journal Article Med. Chem. Commun.** Online Manuscript doi: 10.1039/C5MD00156K.
20. Ahmad MF, Mann PG and **Komath SS***. 2015. A Signal with a Difference: The role of GPI anchor signal sequence in dictating conformation and function of the Als5 adhesin in *Candida albicans*. **Adv. Exp. Med. Biol.** 842:147-163. doi: 10.1007/978-3-319-11280-0_10. (Invited article)
21. Anshuman, Singh SL, Yadav B and **Komath SS***. 2014. *Saccharomyces cerevisiae* Gpi2, an accessory subunit of the enzyme catalyzing the first step of glycosylphosphatidylinositol (GPI) anchor biosynthesis, selectively complements some of the functions of its homolog in *Candida albicans*. **Glycoconj. J.** 31(6-7):497-507. doi: 10.1007/s10719-014-9536-8. (Invited article)
22. Yadav B, Bhatnagar S, Ahmad MF, Jain P, Pratyusha VA, Kumar P, **Komath SS***. 2014. First step of glycosylphosphatidylinositol (GPI) biosynthesis cross-talks with ergosterol biosynthesis and Ras signaling in *Candida albicans*. **J Biol Chem.** 289(6):3365-82. doi: 10.1074/jbc.M113.528802. Epub 2013 Dec 19.
23. Pooja, Parasher P, Singh P, Panwar K, Vikramdeo KS, Mondal N, **Komath SS***. 2014. Synthesis of amino acid appended indoles: Appreciable anti-fungal activity and inhibition of ergosterol biosynthesis as their probable mode of action. **Eur. J. Med. Chem.** 80: 325-339.

24. Ashraf M, Sreejith P, Yadav U and **Komath SS***. 2013 Catalysis by N-acetyl-D-glucosaminyolphosphatidylinositol de-N-acetylase (PIG-L) from *Entamoeba histolytica*: New roles for conserved residues. **J. Biol. Chem.** 288:7590-7595. doi: 10.1074/jbc.M112.427245. Epub 2013 Jan 22.
25. Rawal MK, Khan MF, Kapoor K, Goyal N, Sen S, Saxena AK, Lynn AM, Tyndall JDA, Monk BC, Cannon RC, **Komath SS**, and Prasad R. 2013. Insight into PDR ABC pump drug transport through mutagenesis of Cdr1p transmembrane domains. **J. Biol. Chem.** 288(34):24480-93. doi: 10.1074/jbc.M113.488353. Epub 2013 Jul 3.
26. Victoria GS, Yadav B, Hahnar L, Jain P, Bhatnagar S and **Komath SS***. 2012. Mutual Co-Regulation Between GPI-N-acetylglucosaminy Transferase and Ergosterol Biosynthesis in *Candida albicans*. **Biochem. J.** 443(3):619-25.
27. Ahmad MF, Yadav B, Kumar P, Puri A, Mazumder M, Ali A, Samudrala G, Muthuswami R, and **Komath SS***. 2012. The GPI anchor signal sequence dictates the folding and functionality of the ALS5 adhesin from *Candida albicans*. **PLoS One** 7(4):e35305.
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29. Nongkhaw M., Gupta M., **Komath S. S.** and Muthuswami R. 2012. Motifs Q and I are required for ATP hydrolysis but not for ATP binding in SWI2/SNF2 proteins. **Biochemistry** 51(18):3711-22.
30. Ashraf M, Yadav B, Sreejith, Kumar KS, Vats D, Muthuswami R and **Komath SS***. 2011. The N-Acetyl-D-glucosaminyolphosphatidylinositol de-N-acetylase from *Entamoeba histolytica*: Metal alters catalytic rates but not substrate affinity. **J. Biol. Chem.** 286: 2543-2549. doi:10.1074/jbc.c110.178343
31. Singh P, Verma P, Yadav B, **Komath SS***. 2011. Synthesis and evaluation of indole-based new scaffolds for antimicrobial activities-Identification of promising candidates. **Bioorg Med Chem Lett.** 2011 Jun 1;21(11):3367-72.
32. Victoria GS, Kumar P and **Komath SS***. 2010. The *Candida albicans* homolog of PIG-P: Gene dosage and role in growth and filamentation. **Microbiology.** 156, 3041-3051.
33. Singh P, Kaur J, Yadav B and **Komath SS***. 2010. Targeting efflux pumps—*In vitro* investigations with acridone derivatives and identification of a lead molecule for MDR modulation. **Bioorg. Med. Chem.** 18:4212–4223.
34. Pandey, G., Fatma, T., Cowsik, S. M. and **Komath SS.*** 2009. Specific interaction of jacalin with phycocyanin, a fluorescent phycobiliprotein. **J. Photochem. Photobiol. B. Biol.** 97(2):87-93.
35. Pandey, G., Fatma, T and **Komath SS.*** 2009. Specific interaction of the legume lectins, concanavalin A and peanut agglutinin, with phycocyanin. **Photochem. Photobiol.** 85(5):1126-33.
36. Singh P, Kaur J, Yadav B and **Komath SS***. 2009. Design, synthesis and evaluation of acridone derivatives using *Candida albicans*- Search for MDR modulators led to identification of an anti-candidiasis agent. **Bioorg. Med. Chem.** 17(11):3973-9. Epub 2009 Apr 18.
37. Nongkhaw M, Jha DK, Hockensmith, JW, **Komath SS*** and Muthuswami R.* 2009. Elucidating the mechanism of DNA-dependent ATP hydrolysis mediated by DNA-dependent ATPase A, a member of the SWI2/SNF2 protein family. **Nucleic Acid Research** 37(10):3332-41. Epub 2009 Mar 26.

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62. Roy S, **Komath SS** and Bagchi B. 1993. Dielectric friction and solvation dynamics: novel results on relaxation in dipolar liquids. *Proc. Indian Acad. Sci. (Chem. Sci.)*. 105(1): 79-85.
63. Chattopadhyay A, **Komath SS** and Raman B. 1992. Aggregation of lasalocid A in membranes: a fluorescence study. *Biochim. Biophys. Acta*. 1104:147-150.

Book Chapters and Posters (peer-reviewed)

64. **Komath SS**, Fujita M, Hart GW, Ferguson MAJ, Kinoshita T. Glycosylphosphatidylinositol Anchors. In: Varki A, Cummings RD, Esko JD, Stanley P, Hart GW, Aebi M, Mohnen D, Kinoshita T, Packer NH, Prestegard JH, Schnaar RL, Seeberger PH, editors. *Essentials of Glycobiology* [Internet]. 4th ed. Cold Spring Harbor (NY): Cold Spring Harbor Laboratory Press; 2022. Chapter 12. PMID: 35536964.
65. **Komath SS***. 2022. An introduction to enzymes and the kinetics of single-substrate enzyme-catalysed reactions. *Accounts of Chemical Education and Research*, Volume 1, Issue 1 [Sep 2022- Dec 2022] pp. 87-106. (Indian Chemical Society) Invited.
66. Nonomura A, Shevela D, **Komath SS**, Biel K, Govindjee G. 2020. Plant Growth Regulator for Photosynthesis, *Govindjee's Educational Poster Series*, 2020, July 2020, DOI: 10.13140/RG.2.2.30634.44480

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Other Publications (Science and Society)

1. **Komath SS**. 2020. Our parallel universes: Eyes must see, ears must listen, the heart must seek. *South Asia Monitor*. Published 22 July 2020. <https://southasiamonitor.org/culture/our-parallel-universes-eyes-must-see-ears-must-listen-heart-must-see>. (An invitation to birding)
2. **Komath SS**. 2019. For a place at the high-table: A compelling case of Indian women in Science. *Dialogue (Science, Scientists, and Society)*, 12 April 2019. <https://doi.org/10.29195/DSSS.02.01.0018>.
Translated into Hindi स्नेहा सुधा कोमथ. 2020. भारत में विज्ञान के क्षेत्र में महिलाओं की स्थिति. *Srote*, 02 September (<https://bit.ly/3b7NESG>)
3. **Komath SS**. 2018. STEM: The Gender Gap. *Deccan Chronicle*. Published Jun 3, 2018 (Discourse). <https://www.deccanchronicle.com/discourse/030618/stem-the-gender-gap.html>.
4. **Komath SS**. 2008. Frames of science? *Current Science* 94(11): 1363-64.

Details of Funded Research Projects

Current Projects:

1. Exploring the mechanism of endopeptidase activity of *Candida albicans* Gpi8. **SERB-POWER Fellowship (2021)**. March 2022-2025.
2. Studying the catalytic subunit of the GPI *N*-acetylglucosaminyl transferase in *Candida albicans*. **DBT**. 2022-25.
3. Virulence of *C. albicans* GPI biosynthetic mutants exhibiting hyperfilamentous phenotypes- a study using mammalian cell lines and mouse models. **DBT**. 2024-27 (co-PI)

Major projects completed:

S. No.	Title	Approx. Cost (Lakhs of Rs.)	Duration	PI/ Co-PI	Agency
1.	Activation of GPI <i>N</i> -acetylglucosaminyl transferase in <i>Candida albicans</i> .	63.23	March 2021-2024	PI	SERB
2.	Role of <i>ERG5</i> and <i>ERG4</i> in <i>Candida albicans</i> and the effect of ergosterol loss on GPI anchor biosynthesis, transport and location.	16.5	May 2019-2022 (+ 6 months extension)	PI	CSIR
3.	Elucidating the cross-talk between histone acetyltransferases and ATP-dependent chromatin remodelers proteins in <i>C. albicans</i> and mammalian cells. (Co-PI).	94.0	2019-2023	Co-PI	STARS
4.	Structure-function analysis of GPI biosynthetic enzymes.	113.10	Feb 2019-22	Co-PI	DBT

5.	GPI transamidase in <i>Candida albicans</i> .	49.554	Dec 2017-20	PI	DBT
6.	GPI biosynthesis and Ras signaling in <i>Candida albicans</i>	59.198	June 2013-16	PI	DBT
7.	Cross-talk between GPI biosynthesis and Ras signaling in <i>S. cerevisiae</i>	92.106	Feb 2014-17	PI	SERB/ DST
8.	Tailoring glycosylphosphatidylinositol substrates and substrate mimetics to study host-pathogen interactions	81.74	Mar 2015-18	PI	DST (Special call)
9.	Mammalian Pig-L: Cloning, purification and characterization of GlcNAc-PI de-N-acetylase activity	15.00	Oct 2014-17	PI	CSIR
10.	Targeting ABC transporters: Development of multi drug resistance modulators and fluorescent probes (<u>independent funding</u>)	16.70	May2012-15	Co-PI	DST
11.	Studying the mechanism of de-N-acetylation by a novel de-N-acetylase (PIG-L) from <i>Entamoeba histolytica</i>	17.55	Nov 2013-16	PI	CSIR
12.	Investigating the role of PIG-H, an accessory protein in the first step of GPI anchor biosynthesis in <i>Candida albicans</i>	35.42	Feb 2012-15	PI	DBT
13.	Role of PIG-P in <i>Candida albicans</i> .	7.032	Apr 2006-09	PI	UGC
14.	Understanding the deacetylation step catalyzed by PIG-L gene product during GPI Biosynthesis in <i>Candida albicans</i>	12.0	June 2007-10	PI	CSIR
15.	Understanding the Initial Steps in the GPI Biosynthesis Pathway in <i>Candida albicans</i>	32.70	Nov 2005-08	PI	DBT

Funding support received under Umbrella Projects:

1.	DBT-BUILDER to SLS (2022-27)
2.	DST-FIST (2016-21)
3.	DST-PURSE (2013-18)
4.	Analysis of the GPI anchor signal sequence of the Als5 adhesin in <i>Candida albicans</i> (2014- 2019) - University with Potential for Excellence grant received by JNU
5.	DBT-BUILDER (2012-16)
6.	UGC-RNW (2008-13)
7.	DRS & CAS, SLS, JNU

Details of Research Supervision

Post-doctoral researchers associated with the lab in different capacities

1.	Dr. Usha Yadav (ICMR RA) 2022-2023
2.	Dr. Subhash Chandra Sethi (Project Fellow) 2021-2022
3.	Dr. Priyanka Jain (Project Fellow) 2020-2021
4.	Dr. Anandita Banerjee (SRF in a DBT funded project and later as U.G.C. D.S. Kothari Post-Doctoral Fellow) 2020- 2022
5.	Dr. Shabnam Akhtar (U.G.C. D.S. Kothari Post-Doctoral Fellow) 2018-2021
6.	Dr. Sudisht K. Sah (worked as SRF in DBT funded project, 2019)
7.	Dr. Namita Rokana (SRF 2015-16)
8.	Dr. Dominic Thangminlen Haokip (PDF in DBT-BUILDER project, 2015-2016)
9.	Dr. Madhuri Singh (U.G.C. D.S. Kothari Post-Doctoral Fellow 2013-14)
10.	Dr. Archana Sehgal (DST Young Scientist 2004-2007)

MPhil/ PhD research students trained and their present location

	Name	Enrolled	Degree awarded	Present Address
1.	Dr. Ramesh C. Rai	2003	2010	Scientist-D, BRIC-Translational Health Science and Technology Institute NCR Biotech Science Cluster, 3rd Milestone Faridabad – Gurgaon Expressway, Faridabad – 121001 Haryana, India.
2.	Dr. Pravin Kumar (co-supervisor Dr. Rohini Muthuswami)	2004	2010	SERB-Young Scientist National Institute of Plant Genome Research, New Delhi, 110067, India
3.	Dr. Mohammad Ashraf Khan	2005	2013	Assistant Professor / Head Department of Biotechnology Government Sri Pratap College Srinagar J & K, India
4.	Dr. Guiliana Victoria Soraya	2006	2011	Grants Officer, Université Paris Cité Paris, Île-de-France, France
5.	Dr. Bhawna Yadav	2007	2013	Project Scientist - II Biosafety Support Unit (A partnership project between Department of Biotechnology, Govt. of India and Regional Centre for Biotechnology), New Delhi
6.	Dr. Usha Yadav	2010	2016	NPfD, AIIMS, New Delhi until 2022 ICMR-RA (in SSK lab) since 2022
7.	Dr. Priyanka Jain	2010	2016	Not available
8.	Dr. Snehlata Singh	2011	2017	Scientist D, Department of Biotechnology (DBT)
9.	Dr. Pratyusha Vavilala	2011	2017	Assistant Professor, Dept. of Biochemistry Shaheed Rajguru College of Applied Sciences for Women, University of Delhi
10.	Dr. Pareeta Gajraj	2011	2017	Lecturer, Jayoti Vidyapeeth Women's University

11.	Anshuman M. Phil. Ph. D.	2012 2014	2014 2020	Postdoctoral Fellow, Department of Microbiology and Immunology, Stony Brook University (SBU) Current Address: Long Island, New York, USA
12.	Shazia Parveen	2013	2022	Not available
13.	Anupriya Chandarker	2013	2020	Not available
14.	Sudisht Sah	2013	2018	Postdoctoral associate, Department of Biochemistry and Biophysics, School of Medicine and Dentistry, University of Rochester, NY, USA
15.	Pramitha Garai	2014	2020	Assistant Professor, Department of Zoology, City College, Kolkata -700009
16.	Subhash Chandra Rai	2015	2021	Postdoctoral Fellow, NIH, Bethesda MD (USA)

Current Students (co-supervisors and fellowship details)

	Name	Enrolled	Status	Fellowship funding/ Co-Supervisor
17.	Shailja Shefali	2017	<i>viva voce</i> to be done	DBT-SRF (Co-supervisor Prof. S. Gourinath)
18.	Monika Bharati	2018	continuing	UGC-SRF
19.	Yatin Suneja	2019	continuing	ICMR-SRF
20.	Simran Sharma	2019	continuing	DBT-SRF (Co-supervisor Prof. S. Gourinath)
21.	Isaac Cherian	2020	continuing	PMRF
22.	Harshita Saini	2021	continuing	JRF (project)
23.	Neha Thakran	2022	continuing	CSIR-JRF
24.	Smriti Singh	2024	continuing	JRF

Co-supervision of Ph. D. students registered in SLS, JNU

	Name	Degree awarded	Co-Supervision with
1.	Dr. Versha Rai	2007	Prof. Rajendra Prasad
2.	Dr. Lalremruata Haunhar	2013	Dr. Rohini Muthuswami
3.	Dr. Sudhuman Singh	2013	Prof. Biren Mallick
4.	Dr. Pratishtha Rai	2018	Prof. Sudha M. Cowsik
5.	Dr. Anita Loha	2019	Prof. Alok Mondal; Prof. Nirala Ramchiary
6.	Dr. Shatrunjai Giri	2022	Prof. Biren Mallick

Co-supervision of Ph. D. students registered outside JNU

	Name	Degree awarded	Co-supervisor	Institution at which registered
7.	Dr. Jatinder Kaur	2009	Dr. Palwinder Singh	GNDU, Amritsar
8.	Dr. Md. Faiz Ahmad	2012	Prof. Anwar Alam	Jamia Milia Islamia University
9.	Dr. Gunjan Pandey	2012	Prof. Tasneem Fatma Prof. S. M. Cowsik (SLS)	Jamia Milia Islamia University
10.	Dr. Kalpana Pawar	2017	Prof. Balwinder Singh	Uttarakhand Technical University

Masters dissertation students of SLS

	Name	YEAR	Current position
1.	Lakshman	2003-04	Assistant Professor, Krea University
2.	G. Soraya Victoria	2004-05	Grants Officer, Université Paris Cité Paris, Île-de-France, France

3.	Yukti Aggarwal	2005-06	Process Engineer, Intel Corporations
4.	Nidhi	2005-06	Not available
5.	Sutirtha Datta	2006-07	Research Program Manager- Data Management @ Rutgers Cancer Institute of New Jersey
6.	Shailesh Kumar	2008-09	Staff Scientist-IV, NIPGR, New Delhi
7.	Aditi Verma	2010-11	Ph. D. (IISc); Currently pursuing MS in Biomedical Informatics, Northwestern University, Chicago
8.	Pooja Sanduja	2011-12	Postdoctoral Researcher, Boston Children's Hospital
9.	Mukesh Kumar	2011-12	Not available
10.	Anupama Yadav	2011-12	Not available
11.	Rohini Datta	2012-13	RNA therapeutics and vaccine design, Meso Scale Diagnostics, LLC. Washington DC-Baltimore Area
12.	Shikha Srivastava	2014-15	Graduate student, University of Louisville, Kentucky, USA
13.	Shafaque Zahra	2016-17	Ph.D. from NIPGR; post-doctoral fellow, Bioinformatics, University of Virginia, Charlottesville, VA 22903.
14.	Punnag Som	2018-19	Doctoral student, University of Göttingen, Germany
15.	Neha Agarwal	2019-20	Ph.D. Student, CDRI, Lucknow
16.	Anuradha Gupta	2020-21	Ph.D., SCMM, JNU
17.	Sakshi Seth	2020-21	IISER, Mohali
18.	Aqsa Qureshi	2021-22	Currently not available
19.	Sunyna Saun	2022-23	Ph. D. student at IISc
20.	Dip Shikha	2023-24	Not available
21.	Indu	2024-25	Continuing
22.	Sanjeev Lochan	2024-25	Continuing

Other short-term project students/ technical assistants/project fellows

YEAR	Name
2004-07	Sreejith, Masum Saini, Hina
2008-09	Priyanka Kumari, Roxy Vats, Gowhar Ahmad Bhat
2009-10	Pooja Joshi, Kokila S Kumar, Aditi Nelly
2010-11	Amrita Puri, Farheen Mirza, Ankita Dasgupta, Chetna Sai, Thomas Sarah Babu,
2011-12	Sujeet, Sugandha Singh, Safir Ahmad, Shilpi Bhatnagar, Lavanya Nambiar, Shefali Gupta
2012-13	Kiran Bora, Tilak Kumar Gupta, Sudhanshu Mudgal, Md. Abdul Yaseen, Snigdha
2014-15	Suad, Deepanshi, Muskan Bhatia, Prerna Sharma (DBT-BUILDER)
2015-16	Sanjana Ailani, Jasleen Kaur, Roshni Gupta
2016-17	Sonali Singh (Project Assistant 2016-2018), Prerna, Lekha Nath, Ruchi, Sumit Kumar, Nikita
2017-18	Rajnandan, Sree Lakshmi, Lakshman, Malavika Ghosh, Neha, Dr. Saquib Mahmood, Yashica Adhlakha
2019-20	Madiha Abbas, Kamakshi, Yash Mishra
2021-22	Tanya Sapra
2022-23	Suhaava Kooner, Sneha Chakraborty, Muskan Aggarwal
2023-24	Yukta S. Ahire