

GNANESH KUMAR B S

gnanesh@cftri.res.in

Research Interest:

Major area: Biomolecular mass spectrometry, Glycobiology, Protein chemistry

Specific area: Milk glycomics/glycoproteomics, plant bioactive profiling and bio functional studies.

Scientist (2017-Till date)

- Department of Biochemistry, CSIR-CFTRI, MYSORE -570020

Post-doctoral research experience:

- Molecular Biophysics Unit, Indian Institute of Science, Bangalore (2014-2017).

Educational Qualifications:

- **Doctor of Philosophy (PhD)**
Department of Biochemistry, University of Hyderabad, Hyderabad, India (2014)
- **Master of Science (M.Sc)**
Department of Studies in Biochemistry, University of Mysore (2006-2008)

Research Papers:

At CSIR-CFTRI, Mysuru (As corresponding author)

- P Lijina, J R Manjunatha, **BS Gnanesh Kumar** (2023) Characterization of free oligosaccharides from garden cress seed aqueous exudate using PGC LC-MS/MS and NMR spectroscopy. *Carb. Res.* 108914.
- P Lijina, **BS Gnanesh Kumar** (2023) Discrimination of raffinose and planteose based on porous graphitic carbon chromatography in combination with mass spectrometry. *J. of Chromat. B*, 1224, 123758
- P. Lijina, **B.S. Gnanesh Kumar** (2023) Differentiating planteose and raffinose using negative ion mode mass spectrometry. *Intl. J. Mass Spec.* 487, 117027.
- M. Sudarshan, V. Divya Shree , P. Jyothibai, **B.S. Gnanesh Kumar** (2023) N-Glycoprofiling of immunoglobulin G and lactoperoxidase from sheep milk using LC-MS/MS. *Intl. Dairy J.* 140, 105582.

- **Gnanesh Kumar, B.S**, Lijina P, Jinesh, P, & Anagha, S. M (2022) N-Glycoprofiling of immunoglobulin G and lactoferrin with site-specificity from goat milk using RP-UHPLC MS/MS. **Food Chemistry**, 383, 132376.
- **Gnanesh Kumar, B.S**, Lijina P, & Akshatha S H (2022) N-glycoprofiling of lactoferrin with site-specificity from buffalo colostrum. **Intl. Dairy J.** 127, 105215.
- **Gnanesh Kumar BS** and Simran Mattad (2021) Comprehensive analysis of lactoferrin N-glycans with site-specificity from bovine colostrum using specific proteases and RP-UHPLC-MS/MS. *Intl Dairy J.*, 119, 104999.
- Jinesh P, Lijina P, **Gnanesh Kumar BS** (2021) Sequence and N-glycan diversity analysis of immunoglobulin G from buffalo milk using RP-UHPLC MS/MS. *Amino Acids.* 53, 533-539.
- **Gnanesh Kumar BS**, A Rawal (2020) Sequence characterization and N-glycoproteomics of secretory immunoglobulin A from donkey milk. *Intl. J. Biol. Macromol.* (155): 605-613.
- **Gnanesh Kumar BS**, Madan Reddy Prasad, Sanjay Kottekkad (2018) Comparative site-specific N-glycosylation analysis of lactoperoxidase from buffalo and goat milk using RP-UHPLC-MS/MS reveals distinct glycan pattern. **J. Agri. Food Chem.** (66):11492-11499.

During PhD and post doctoral period (As first author)

- **Gnanesh Kumar BS**, Surolia A (2018) Identification of isoforms and differential acetylation in banana lectin isoforms using mass spectrometry approaches. **Protein J.** (37): 38-46.
- **Gnanesh Kumar B S**, Avadhesha Surolia (2017) N-glycosylation analysis of yeast carboxypeptidase Y reveals the ultimate removal of phosphate from glycans at Asn₃₆₈. **Intl J Biol Macromol.** (98): 582-585.
- **Gnanesh Kumar B S**, Avadhesha Surolia. (2016) Comprehensive analysis of α 2-3-linked sialic acid specific *Maackia amurensis* leukagglutinin reveals differentially occupied N-glycans and C-terminal processing. **Intl J Biol Macromol.** 94 (Pt A):114-121.
- **Gnanesh Kumar B S**, Surolia A. (2016) Site specific N-glycan profiling of NeuAc(α 2-6)-Gal/GalNAc-binding bark *Sambucus nigra* agglutinin using LC-MSⁿ revealed differential glycosylation. **Glycoconj J.** 2016, (33):907-915.
- **Gnanesh Kumar B S**, Mishra P, Anantharam V, Surolia A. (2015) *Luffa acutangula* agglutinin: Primary structure determination and identification of a tryptophan residue

involved in its carbohydrate-binding activity using mass spectrometry. **IUBMB Life**, (67) 943-53.

- **B. S. Gnanesh Kumar**, G. Pohlentz, M. Schulte, M. Mormann and N. Siva Kumar (2014) *N*-glycan analysis of mannose/glucose specific lectin from *Dolichos lablab* seeds. **Intl J Biol Macromol**, (69) 400-407.
- **B. S. Gnanesh Kumar*, G. Pohlentz*, M. Schulte, M. Mormann and N. Siva Kumar (2014) Jack bean α -mannosidase: Complete amino acid sequencing and *N*-glycan analysis of valuable glycomics tool. **Glycobiology**, (24) 252-261.**
- **B. S. Gnanesh Kumar**, G. Pohlentz, M. Mormann and N. Siva Kumar (2013) Characterization of α -mannosidase from *Dolichos lablab* seeds: partial amino acid sequencing and *N*-glycan analysis. **Protein Expr and Purif**, (89) 7- 15.

Awards / Fellowships:

- Council of Scientific and Industrial Research (CSIR) - Junior Research Fellowship, June-2008
- Indian Council of Medical Research (ICMR) - Junior Research Fellowship, August-2008
- **Student member of First Indo-German Research Training Group on Molecular and Cellular Glycosciences (IRTG-MCGS). Under this programme visited Institute for Hygiene, University of Münster, Germany for doctoral work during April-July 2010 and June 2011- January 2012.**

Conferences/ Workshops Participation:

- Poster presentation in ‘MBU Inhouse Symposia’ held at IISc, Bangalore on August 8, 2015
- Oral presentation in ‘DFG- On-site Evaluation of IRTG-MCGS’ held at University of Münster, Münster, Germany during July 3-4, 2013
- Poster presentation in Gordon Research Conference (GRC) –Glycobiology held in Ventura, Los Angeles, USA during March 3-8, 2013
- IISc Mathematics Initiative workshop on ‘Proteins Structure, Function and Folding’ held at Indian Institute of Science, Bangalore during December 20-24, 2010
- DBT-ISLARE National workshop on ‘Genome Analysis’ held at Osmania University, Hyderabad during November 11-20, 2010