Titli Nargis, Ph.D.

DST Inspire faculty fellow
Bose Institute, Kolkata, India
Department of Biological Sciences
Email: titli.bt.hit@gmail.com/titlinargis88@gmail.com

PERSONAL STATEMENT

My career as a researcher is driven by a deep commitment to understanding the cellular mechanisms underlying metabolic diseases. During my postdoctoral training under Dr. Raghavendra Mirmira at the University of Chicago, I have investigated the interplay between cellular immunity and metabolic disorders, particularly Type 1 Diabetes. My research foundation was established during my Ph.D. at the Indian Institute of Chemical Biology, where I studied molecular mechanisms such as dipeptidyl peptidase-4 shedding from immune cells and its implications in Type 2 Diabetes and obesity.

My long-term goal is to elucidate the pathogenesis of metabolic diseases and contribute to the development of transformative treatments that improve patient outcomes by bridging insights from both basic science and clinical immunology.

ACADEMIC TRAINING

Degree	Start Date	Completion Date	Field of Study	Institute and Location
B.Tech	05/2006	05/2010	Biotechnology	West Bengal University of Technology, India
M.Tech	06/2010	05/2012	Biotechnology	National Institute of Technology, Durgapur, India
Ph.D.	02/2013	02/2019	Biotechnology	CSIR-Indian Institute of Chemical Biology, India
Research Associate	08/2018	11/2019	Medicine	NYU Long Island School of Medicine, Mineola, NY, USA
Research Associate	10/2020	05/2022	Medicine	ICMR-National Institute of Cholera and Enteric Diseases, India
Postdoctoral Scholar	05/2022	03/2025	Medicine	University of Chicago, Chicago, USA
Staff Scientist	04/2025	11/2025	Medicine	University of Chicago, Chicago, USA
DST Inspire faculty	12/2025	Present	Biological Sciences	Bose Institute, Kolkata, India

HONORS, PRIZES, AND AWARDS

Years	HONORS, PRIZES, AND AWARDS
2011	Qualified Graduate Aptitude Test in Engineering (GATE) in Biotechnology with a percentile of 98.55 (All India Rank 519), India.

2013-2017	Senior Research Fellowship (SRF) award by Council of Scientific and Industrial Research (CSIR), India.
2017	An international travel award (Go Everywhere Travel Grant Program) from R&D system Bio-Techne.
2017	An international travel grant from Department of Biotechnology (DBT), India.
2020-2022	Research Associate (RA) award funded by Department of Biotechnology (DBT), India
2023	Abstract selected for Presidential poster competition at ENDO 2023, Chicago, USA.
2023	Abstract selected for Rapid fire presentation at ENDO 2023, Chicago, USA.
2024	Poster awardees at Janet Rowley Research Day, University of Chicago, USA.
2024	Poster awardees at Diabetes Day, University of Chicago, USA.
2024	Oral talk**,** Midwest Islet Club Meeting, USA.

SCIENTIFIC APPOINTMENTS: 2023-present: Member, Review Editor, Frontiers In Endocrinology

FUNDING: Research grant from Research Society of Study of Diabetes (RSSDI) for study of diabetes in India 2014.

RESEARCH PUBLICATIONS:

1. **T Nargis**, K Kumar, A R Ghosh, A Sharma, D Rudra, D Sen, S Chakrabarti, S Mukhopadhyay, D Ganguly, P Chakrabarti. KLK5 induces shedding of DPP4 from circulatory Th17 cells in Type 2 Diabetes. *Molecular Metabolism*, 2017; 6 (11): 1529-1539. *Featured Article.*

2. AR Ghosh, R Bhattacharya, S Bhattacharya, **T Nargis**, O Rahaman, P Duttagupta, D Raychaudhuri, CS Liu, S Roy, P Ghosh, S Khanna, T Chaudhuri, O Tantia, S Haak, S Bandyopadhyay, S Mukhopadhyay, P Chakrabarti, D Ganguly. Adipose recruitment and activation of plasmacytoid dendritic cells fuel metaflammation. *Diabetes*, 2016; 65(11): 3440-3452.

3. J Sarkar#, **T Nargis#**, O Tantia, S Ghosh, P Chakrabarti. Plasma dipeptidyl peptidase-4 (DPP4) activity is an obesity-independent parameter for glycemic deregulation in type 2 diabetes patients. *Frontiers in Endocrinology*, 2019; 10: 505. **#equal authorship.**

4. C Selvan, D Dutta, A Thukral, **T Nargis**, M Kumar, S Mukhopadhyay, S Chowdhury. Neck height ratio is an important predictor of metabolic syndrome among Asian Indians. *Indian Journal of Endocrinology and Metabolism*, 2016; 20(6): 831-837.

5. J Sarkar, S K Maity, **T Nargis**, D B Ray, P Chakrabarti. Impaired compensatory hyperinsulinemia with increasing body weight among non-obese type 2 diabetes: A cross-sectional study. *Therapeutic Advances in Endocrinology and Metabolism*, 2019; 10: 1-10.

6. I Ghosh, P Mukhopadhyay, K Das, B Anne, S A Mondal, M Basu, **T Nargis**, K Pandit, P Chakrabarti, S Ghosh. Incretins in Fibrocalculous Pancreatic Diabetes: A unique subtype of Type 3c Diabetes. *Journal of Diabetes*, 2021; 13: 506–511.

7. Y Xu, P C Miller, C KL Phoon, M Ren, **T Nargis**, S Rajan, M M Hussain, M Schlame. LPGAT1 controls the stearate/palmitate ratio of phosphatidylethanolamine and phosphatidylcholine in sn-1 specific remodeling. *Journal of Biological Chemistry*, 2022; 298(3): 101685.

8. B Barkondaj, **T Nargis**, P Chakrabarti, S Mukhopadhyay, K Biswas, D Ganguly, C Chaterjee, N Sengupta, A Hazra. An Observational Study showing Dipeptidyl Peptidase-4 (DPP-4) Activity and Gene Expression Variation in Chronic Liver Disease (CLD) Patients from a Tertiary Care Hospital of Eastern India. *Indian Journal of Endocrinology and Metabolism*, 2022; 26(3): 245–251.

9. **T Nargis**, A R Piñeros, S C May, S A Tersey, R G Mirmira. Protocol to isolate immune cells from mouse pancreatic lymph nodes and whole pancreas for mass cytometric analyses. *STAR Protocols*, 2022; 4(1):101938. DOI: 10.1016/j.xpro.2022.101938.

10. **T Nargis**, X Lin, E Giordano, L Ijaz, S Suhail, E M Gurzenda, D Kiefer, L Quadro, N Hanna, M M Hussain. Characterization of lipoproteins in human placenta and fetal circulation as well as gestational changes in lipoprotein assembly and secretion in human and mouse placentas. *Biochim Biophys Acta Mol Cell Biol Lipids*, 2023; 1868(9): 159357.

11. E Ermis, **T Nargis**, K Webster, S A Tersey, R M Anderson, R G Mirmira. Leukotriene B4 receptor 2 (BLT2) governs macrophage migration during tissue inflammation. *Journal of Biological Chemistry*, 2024; 300(1): 105561.

12. C Muralidharan, F Huang, J R Enriquez, J E Wang, J B Nelson, **T Nargis**, S C May, A Chakraborty, K T Figatner, S Navitskaya, C M Anderson, V Calvo, D Surguladze, M J Mulvihill, X Yi, S Sarkar, S A Oakes, B M Webb-Robertson, E K Sims, K A Staschke, D L Eizirik, E S Nakayasu, M E Stokes, S A Tersey, R G Mirmira. Inhibition of the eukaryotic initiation factor-2-α kinase PERK decreases risk of autoimmune diabetes in mice. *Journal of Clinical Investigation*, 2024 Jun 18.

13. **T Nargis**, C Muralidharan, J R. Enriquez, J E. Wang, K Kaylan, A Chakraborty, S Pratuangtham, K Figatner, J B. Nelson, S C. May, J L. Nadler, M B. Boxer, D J. Maloney, S A. Tersey and R G. Mirmira. 12-Lipoxygenase inhibition delays onset of autoimmune diabetes in human gene replacement mice. *JCI Insight,2024 Nov 10.1172/jci.insight.185299.*

14. K Kaylan[#], **T Nargis[#]**, K Figatner, J E. Wang, S Pratuangtham, A Chakraborty, I Casimiro, J L. Nadler, M B. Boxer, D J. Maloney, R M. Anderson, R G. Mirmira, and S A. Tersey. 12-Lipoxygenase inhibition improves glycemia and obesity-associated inflammation in male human gene replacement mice. *Endocrinology 2025 Apr 5: DOI: 10.1210/endocr/bqaf069* [#]**Authors contributed equally.**

15. J E Wang, C Muralidharan, A A Puente, **T Nargis**, J R Enriquez, R M Anderson, R G Mirmira, S A Tersey. The integrated stress response promotes macrophage inflammation and migration in autoimmune diabetes. *Cell Communication and Signaling 2025*: *DOI.org/10.1186/s12964-025-02372-z*

16. K Kaylan, C Checkcinco, J R Enriquez, **T Nargis**, E Elliott, A A Puente, J E Wang, M Walsh, J B Nelson, A Kulkarni, C Muralidharan, S C May, R M Anderson, R G Mirmira, S A Tersey. The G Protein-Coupled Receptor GPR31 Promotes Pro-inflammatory Responses in Pancreatic Islets and Macrophages. *doi: https://doi.org/10.1101/2025.10.02.680021*

REVIEW ARTICLES:

1. **T Nargis** and P Chakrabarti. Significance of circulatory DPP4 activity in metabolic diseases. *IUBMB LIFE,* 2018; 70(2):112-119 *Featured Article.*

2. L Quadro, E Giordano, B K. Costabile, **T Nargis**, J Iqbal, Y Kim, L Wassef and M. M Hussain. Interplay between beta-carotene and lipoprotein metabolism at the maternal-fetal barrier. *Biochim Biophys Acta Mol Cell Biol Lipids,* 2020; 1865(11): 158591.