Santosh **Bhosale**

Postdoctoral Researcher

University of Southern Denmark, Odense, Denmark

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I have been working with LC-MS/MS based proteomics research, including discovery and validation of serum biomarkers in clinical samples from type 1 diabetes and atherosclerosis studies. Collaboration with clinicians, mass spectrometry experts and bioinformaticians.

Research Proficiency

Wet lab

Cell culture work, animal handling (albino mice) and clinical samples, Cell & tissue sample lysis, SDS-PAGE electrophoresis (1D, 2D) and western blotting

Proteomics

In gel and solution trypsin digestion, immunodepletion of serum samples, label free quantification, iTRAQ labeling, off-line SCX fractionation, SRM mass spectrometry, PTMs profiling andaffinity chromatography

Mass spectrometry

Independent handling and troubleshooting of a range of instruments LTQ Orbitrap Velos Pro, Q Exactive series, TSQ Vantage (all from Thermo Scientific), MALDI-TOF-MS (Applied Biosystem), SYNAPT HDMS (Waters), API QSTAR Pulsar (AB SCIEX)

Mass spectrometry informatics tools

Xcalibur, Proteome Discoverer (Thermo Scientific), MaxQuant and Perseus, Progenesis, Skyline, InfernoRDN and SpectroDive (Biognosys)

Chromatography instrumentation

Easy nLC series (Thermo Scientific)

Language and softwares

R, SPSS,DAVID, Cytoscape and Ingenuity Pathway Analysis

Employment

Postdoctoral Researcher

Odense - Denmark

Department of Biochemistry and Molecular Biology, University of Southern Denmark — *January 2020 –> Present*

- Working on the development of a post-translational modification specific biomarker discovery platform

Postdoctoral Researcher

Turku - Finland

University of Turku - Turku Bioscience — *November 2018 –> December 2019*

- Worked with the measurements and data analysis to compare the effects of nutrition supplementation in infancy and the correlation between the proteomes of the child and mother
- Analyzed temporal serum proteomes of celiac disease (CD) developing children
- Conducted the interactomics measurements and data analysis for serveral trasnscription factors of T cells

Project Assistant

Pune - India

National Chemical Laboratory — *September 2009 –> December 2011*

- Proteomics laboratory work including protein extraction, digestion and cleanup, SDS-PAGE, mass spectrometry (MS) analysis of glycated proteins, oligonulceotides, small molecules, and animal experiments e.g. Albino mice

Lecturer

Pune - India

JSPMs JSCOPR affiliated to University of Pune — *July 2008 –> September 2009*

- Taught theory and practicals for subjects like pharmaceutical biochemistry and pharmaceutical analysis to the bachelor of pharmacy students
- Supervised undergraduate pharmacy students
- Academic duties grading course assignments and examinations

Education

PhD — *Turku - Finland*

University of Turku (Turku Bioscience) — *2012 –> 2018*

- Established and implemented quantitative proteomics methodology for the analysis of human serum samples, including immunoaffinity depletion, protein digestion, iTRAQ labelling, label free quantification, offline-SCX fractionation, LC-MS/MS and data analysis
- Developed targeted SRM-LC-MS methods to monitor multiple protein targets
- Cellular proteomics, including the analysis of Th17 and iTreg cells from mouse and human
- Teaching experience in proteomics data analysis (presented at a national meeting, 2017)

Master of Pharmacy (Pharmaceutical Chemistry) — *India*

Rajasthan University of Health Sciences (Lachoo Memorial College of Science & Technology) — *2005 –> 2008*

Bachelor of Pharmacy — *Shirur - Pune*

University of Pune (Sitabai Thite College of Pharmacy) — *2001 –> 2005*

Awards

Doctoral dissertation award — *Orion pharma*

Awarded with EUR 5000 — *2018*

Doctoral dissertation award — *The Maud Kuistila Memorial Foundation*

Awarded with EUR 5000 — *2018*

Travel grant — *Turku centre for system biology*

Awarded with EUR 500 to attend computational proteomics course at ETH Zurich — *2015*

Research grant — *Hospital District of Southwest Finland & Turku City*

Awarded with EUR 3500 — *2014*

Dr. Ashok B. Vaidya prize — *South Asian Chapter of American College of Clinical Pharmacology Mumbai India*

Secured first position in an oral session(6 minute competition) — *2009*

Publications

CIP2A Constrains Th17 Differentiation by Modulating STAT3 Signaling — *iScience*

Khan MM, Ullah U, Khan MH, Kong L, Moulder R, Välikangas T, Bhosale SD, Komsi E, Rasool O, Chen Z, Elo LL, Westermarck J, Lahesmaa R — *2020*

Protein interactome of the Cancerous Inhibitor of protein phosphatase 2A (CIP2A) in Th17 cells — *Current Research in Immunology*

Khan MM, Välikangas T, Khan MH, Moulder R, Ullah U, Bhosale SD, Komsi E, Butt U, Qiao X, Westermarck J, Elo LL & Lahesmaa R — *2020*

Quantitative Proteomics Reveals the Dynamic Protein Landscape during Initiation of Human Th17 Cell Polarization — *iScience*

Tripathi SK, Välikangas T, Shetty A, Khan MM, Moulder R, Bhosale SD, Komsi E, Salo V, De Albuquerque RS, Rasool O, Galande S, Elo LL, Lahesmaa R — *2019*

Serum Proteomic Profiling to Identify Biomarkers of Premature Carotid Atherosclerosis — *Sci Rep*

Bhosale SD, Moulder R, Venäläinen MS, Koskinen JS, Pitkänen N, Juonala M, Kähönen M, Lehtimäki T, Viikari J, Elo LL, Goodlett DR, Lahesmaa R, Raitakari OT — *2018*

Quantitative proteomic characterization and comparison of T helper 17 and induced regulatory T cells — *PLos Biol*

Mohammad I, Nousiainen K, Bhosale SD, Starskaia I, Moulder R, Rokka A, Cheng F, Mohanasundaram P, Eriksson JE, Goodlett DR, Lähdesmäki H, Chen Z — *2018*

Analysis of the plasma proteome using iTRAQ and TMT-based Isobaric labeling — *Mass Spectrom Rev*

Moulder R, Bhosale SD, Goodlett DR, Lahesmaa R — *2018*

Mass Spectrometry-Based Serum Proteomics for Biomarker Discovery and Validation — *Methods Mol Biol* 2017
Bhosale SD, Moulder R, Kouvonen P, Lahesmaa R, Goodlett DR

The progress and potential of proteomic biomarkers for type 1 diabetes in children — *Expert Rev Proteomics* 2017
Moulder R, Bhosale SD, Lahesmaa R, Goodlett DR

Serum proteomes distinguish children developing type 1 diabetes in a cohort with HLA-conferred susceptibility — *Diabetes* 2015
Moulder R, Bhosale SD, Erkkilä T, Laajala E, Salmi J, Nguyen EV, Kallionpää H, Mykkänen J, Vähä-Mäkilä M, Hyöty H, Veijola R, Ilonen J, Simell T, Toppari J, Knip M, Goodlett DR, Lähdesmäki H, Simell O, Lahesmaa R

Proteome wide reduction in AGE modification in streptozotocin induced diabetic mice by hydralazine mediated transglycation — *Sci Rep* 2013
Kesavan SK, Bhat S, Golegaonkar SB, Jagadeeshaprasad MG, Deshmukh AB, Patil HS, Bhosale SD, Shaikh ML, Thulasiram HV, Boppana R, Kulkarni MJ

Zoom-In A targeted database search for identification of glycation modifications analyzed by untargeted tandem mass spectrometry — *Eur J Mass Spectrom (Chichester)* 2012
Bhonsle HS, Korwar AM, Kesavan SK, Bhosale SD, Bansode SB, Kulkarni MJ

Comparative and chemical proteomic approaches reveal gatifloxacin deregulates enzymes involved in glucose metabolism — *J Toxicol Sci* 2011
Suresh KK, Bhosale SD, Thulasiram HV, Kulkarni MJ

Patent Applications

Means and methods for determining risk of type-1 diabetes by serum protein biomarkers — *Europe & USA*
Moulder R, Bhosale SD, Goodlett D, Lähdesmäki H, Simell S, Lahesmaa R

References

Riitta Lahesmaa, M.D., Ph. D. — *rilahes@utu.fi*
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