

Curriculum Vitae

Dr. Gangamma S.

Contact address

Associate Professor
Environmental Health Laboratory
Department of Chemical Engineering
National Institute of Technology Karnataka Surathkal
Srinivasanagar P.O. Surathkal-575 025
gangamma@nitk.edu.in, gangamma@iitrpr.ac.in

Adjunct Faculty
Center for Water Food and Environment,
IIT Ropar, Rupnagar-140001, Punjab

Education

Ph.D. Indian Institute of Technology, Bombay- Environmental Science and Engineering
M.Tech. Indian Institute of Technology, Bombay- Environmental Science and Engineering
B.E. Bangalore University, Karnataka-Chemical Engineering

Employment

Adjunct Faculty, Centre for Water Food and Environment, IIT Ropar-2020
Associate Professor, Chemical Engineering, NITK Surathkal- 2019
Assistant Professor, Chemical Engineering, NITK Surathkal, 1998-2019
Lecturer, Chemical Engineering, REC Hulkoti, 1997-1998
Visiting Scientist, SDS-TRC Rajiv Gandhi Institute of Chest Diseases, Bangalore, 2013-2014

Laboratory Developed

Research Laboratory: Environmental microbiology and immunology Laboratories
Teaching Laboratory: Bioprocess laboratory (PG- Industrial Biotechnology)

Membership of Professional Bodies

- 1) European Microbial and Infectious Diseases Society-Annual membership
- 2) European Respiratory Society-Annual membership
- 3) American Thoracic Society-Annual membership
- 4) Indian Aerosol Science and Technology Association (IASTA)-Life membership
- 5) Indian Immunology Society (IIS)-Life membership
- 6) Institute of Engineers (IE)-Life membership
- 7) International Society of Indoor air quality and climate- Annual membership

Training in CRISPR Technology: Engineering mammalian cells with CRISPR tools, **CCMB**, Hyderabad, 2018. Also guided Master degree thesis in this area

Training in Virology: Basic techniques in Virology, **PGIMER**, Chandigarh, 2017, Basic Laboratory training, **IISER** Bhopal, 2015. Also guided Master degree thesis in this area

Teaching

I have taught fifteen different courses for UG and PG at NITK Surathkal related to Environmental and Chemical Engineering. Few are listed below,

Genetic Engineering, Environmental Biotechnology, Cell signaling and systems biology, Aerosol Science and air pollution control, Chemical reaction engineering, Air pollution fundamentals, Heat transfer, Environmental systems modeling, Industrial waste treatment and management, Wastewater treatment plant design, Transport phenomena, Pollution control in chemical process industries, Particulate technology laboratory, Heat transfer laboratory etc.

Courses developed at NITK

UG-Chemical Engineering: Introduction to biology for engineers.

PG-Biotechnology and Environmental Engineering: Molecular biology of bacterial and viral infections, Cell signaling and systems biology, Environmental immunology, Environmental and industrial epidemiology.

Awards Received

- 1) Selected for International visitor leadership program (2020) (U.S. Department of State's premier professional exchange program) from US embassy of India, on "Air quality and health"
- 2) Adjunct Faculty, Centre for Water, Food and Environment, IIT Ropar
- 3) European Respiratory Society fellowship 2017, Blizard Institute, Queen Mary University, London.
- 4) Visiting Scientist, SDS-TRC Rajiv Gandhi Institute of Chest Diseases, Bangalore, 2013-2014
- 5) Young scientist award (Earth and atmospheric sciences), DST-SERC, Govt. of India. 2009-2012 (Awarded **excellent grade from the committee**).
- 6) Rajiv Gandhi national fellowship, Govt. of India. 2006-2011.
- 7) Invited as chair for Indoor air 2005, Beijing, China, 2005
- 8) Best Student office bearer award, IIT Bombay, 2004
- 9) Awarded first place in poster presentation at Envirovision-2010, IEA & IIT Bombay
- 10) Awarded financial support under TEQIP-II-World class University Research interaction program to attend research interaction at University of Toronto, Canada, June-July 2014
- 11) Awarded financial support under TEQIP-II-National Research interaction program to attend research interaction at Institute of Genomics and Integrative Biology, Delhi, June-July 2013

Training and skills

Biological techniques: CRISPR, PCR, RT-PCR, Cell free circulatory DNA, ELISA, mRNA and DNA isolation, cell culture, blood cell separation, phagocytosis, macrophage killing assay, bacterial adhesion assay, macrophage differentiations, Reactive oxygen species assay, Biofilm study on lung cells, hematological parameters, biochemical analysis of blood, intra-tracheal instillation (mouse), flow cytometry for proteins and surface expression, EMSA, Cytotoxicity assay, western blot, basic techniques with zebrafish.

Bioaerosol sampling and analysis: Metagenomics, Biosampler, Anderson Impactor, Biolog, 16sRNA, airborne bacteria and fungi analysis with non-culture based method, DNA and Protein analysis, endotoxin analysis, bacterial measurement (flow cytometry, fluorescence microscope).

Air pollution sampling and analysis: Impactors, nebulizer, condensation aerosol generator, nano particle measurement (SMPS), CPC, and OPC.

Instrumentation developed for air pollution measurement: Three stage cascade impactor, Nebulizer, Liquid impaction for bioaerosol sampling, Condensation aerosol generator.

Mathematical model development: Lung deposition models for Non-hygroscopic and hygroscopic particles, Fog microphysics and visibility model, deposition model for semi volatile organic compounds in human lungs.

Training institutes: University of Toronto, Queen's Mary University London, PGIMER Chandigarh, CCMB Hyderabad, BARC Trombay, ACTRAC Bombay, IIT Bombay, NCBS Bangalore, NCCS Pune, TIFR Pune unit, IGIB, New Delhi, CDFD Hyderabad.

Research Projects

Completed

- 1) Measurement and characterization of airborne biological particles (2009-2012) -DST, Govt. of India. (“**Received Excellent Grade**”)- Rs 12.12 lakhs
- 2) Measurement and Characterization of ambient bioaerosols in Bangalore city (2013-2016). DST, Govt. of India. (“**Received Good Grade**”)-Rs 53 lakhs
- 3) Ambient airborne particulate matter: Effect of biological component on lung inflammation (2013-2017). DST, Govt. of India. Rs 51 lakhs
- 4) Heavy metal removal by Melanin coated Polymer matrix (Co-PI) (2015-2018). DST, Govt. of India. Rs 38 lakhs
- 5) Air pollution induced immune cell dysfunction: Implication in Viral infection (In collaboration with IISER, Bhopal, (2015-2018). DST, Govt. of India. Rs 54 lakhs
- 6) Biomass fuel burning smoke induced inflammation: Mechanism of biological pathways (2015-2018), CSIR, New Delhi, Rs 17 lakhs

Under review

- 1) Development and testing of fast online detection system for airborne biological particles. SERB-DST, Govt of India, Rs 99.98 lakhs
- 2) Air pollution and Health: Design fabrication and testing of a system for exhaled breath aerosol characterization. SERB-DST, Govt of India, Rs 99.72 lakhs
- 3) Biomass burning and Air pollution: Measurement and characterization of biogenic organic aerosols in Indo-Gangetic plain. MOEF &CC, Govt. of India, Rs 190.22 Lakhs
- 4) Air pollution and inflammatory response: Airborne biological particle diversity and characterization in urban areas of North Indian Cities. CPCB, New Delhi- Rs 189 lakhs.
- 5) Spatial variation and diversity of airborne biological particles in Delhi city. CPCB, New Delhi- Rs 90 lakhs.
- 6) Ex-vivo modification of macrophages for therapeutic applications: inflammatory and antimicrobial properties, SERB-DST, Govt of India, Rs 88.72 lakhs.

Professional Training Received

- 2018-Engineering mammalian cells with CRISPR tools, CCMB, Hyderabad
- 2017-Basic techniques in Virology, PGIMER, Chandigarh
- 2016- Environmental immunology, Queen Mary University, London, UK
- 2015- Environmental immunology, University of Toronto, Canada

2014- Environmental immunology, University of Toronto, Canada
2013- Advanced training on Danio Rerio model for Environmental Health, Institute of Genomics and Integrative Biology (IGIB), New Delhi
2012- Basic training on Danio Rerio model for Environmental Health, TIFR, Pune campus
2012- Advanced training on Cellular Immunology, Centre for DNA Finger Printing and Diagnostics (CDFD), Hyderabad
2011- Advanced training on Flow Cytometry, NCBS, Bangalore
2010- Training on Animal Cell Culture, NCCS, Pune

Reviewer experiences:

- 1) Reviewer at SERB-DST
- 2) Reviewer, IMPRINT- DST
- 3) Reviewer, NPDF-SERB
- 4) Reviewer, Medical Research Council (MRC), UK
- 5) Reviewed journal Publications- Inhalation Toxicology, Journal of Energy and Environmental Sustainability

List of publications

International Journals:

- 1) Mishra, R., Pandikannan, K., Gangamma, S., Raut, A.A. and Kumar, H (2020). Particulate matter (PM10) enhances RNA virus infection through modulation of innate immune responses. *Environmental Pollution*, doi: 10.1016/j.envpol.2020.115148 (Impact factor **5.71**)
- 2) Gangamma S., Sampada D., Panigrahi M., Tripathi D., Prasanna L. Krishnaja S, Vishaalini Kamali R., and Veekshitha (2020) Airborne bacteria and levoglucosan in Indian biomass fuel burning houses. *American Journal of Respiratory Critical Care Medicine*;201: A1803 (Impact factor **16.49**)
- 3) Gangamma S., Sampada D., Panigrahi M., Vishaalini Kamali R, and Veekshitha (2020) Air pollution and biomass fuel burning in Indian cities: Levoglucosan and Carbohydrates. *American Journal of Respiratory Critical Care Medicine*; 201: A1805 (Impact factor **16.49**)
- 4) Gangamma S. and Pradhan. P. (2019) Cigarette smoking and Lung adenocarcinoma: Cell of origin based re-analysis of gene expression data. *American Journal of Respiratory Critical Care Medicine*;199: A1837 (Impact factor **16.49**)
- 5) Gangamma S. (2018). Lancet commission on pollution: Action plans and human resource development in India. *The Lancet*; 391(10138):2414 (Impact factor: **59.01**)
- 6) S. Gangamma, S. Desai, V. Sowmiya, V. Seethalakshmi, T.K. Deepak, D. Vishnu Priya, S. Krishnaja (2017). "Air Pollution and Vulnerability to Respiratory Infections: *In Vitro* Studies on Particulate Matter from Indian Cities." *American Journal of Respiratory Critical Care Medicine*;195: A6842 (Impact factor **16.49**)
- 7) Gangamma S. (2014). Characteristics of airborne bacteria in Mumbai urban environment. *Science of the Total Environment*, 488-489:70 (Impact factor-**5.589**)
- 8) Gangamma S. (2013). Airborne particulate matter induced lung inflammation. *Environmental Health Perspectives*.120 (1): 11. (Impact factor: **8.05**)
- 9)Gangamma S. 2012. Airborne particulate matter and innate immunity activation. *Environmental Science and Technology*.46(20): 10879. (Impact factor:**7.149**)

- 10) Gangamma S. (2012). Airborne particulate matter associated endotoxin and proinflammatory responses. *Journal of Allergy and Clinical Immunology* 130(4):1012. (Impact factor: **14.11**)
- 11) Gangamma S, Patil R.S., Mukherji S. (2011). Characterization and proinflammatory response of airborne biological particles from wastewater treatment plants. *Environmental Science and Technology*. 45:3282-3287. (Impact factor: **7.149**)
- 12) Varghese, S K. and Gangamma S. (2009). Particle deposition in human respiratory system: deposition of concentrated hygroscopic aerosols, *Inhalation Toxicology*, 21(7):1619. (Impact factor **2.26**)
- 13) Varghese, S. K., Gangamma. S. (2007) Modeling of aerosol formation and growth in a laminar flow aerosol generator using sectional method, *Aerosol and Air Quality Research*, 7(1):46. (Impact factor: **2.58**)
- 14) Varghese, S. K., Gangamma. S. (2007) Evaporation of water droplets by radiation: effect of absorbing inclusions, *Aerosol and Air Quality Research*, 7(1):95. (Impact factor: **2.58**)
- 15) Varghese, S. K., Gangamma. S. (2006) Particle Deposition in Human Respiratory Tract: Effect of Water-Soluble Fraction, *Aerosol and Air Quality Research*, 6(4):360. (Impact factor: **2.58**)
- 16) Varghese, S. K., Gangamma. S., Patil, R. S., and Sethi, V. (2005) Particulate respiratory dose to Indian women from domestic cooking, *Aerosol Science and Technology*, 39(12): 1201. (Impact factor: **2.4**)
- 17) Patil, R. S., Sethi, V., Varghese, S. K., and Gangamma, S. (2005) Personal exposure to Aerosols in urban homes, *Bulletin of American Metrological Society*, 86(9):1226. (Impact factor: **8.166**)

List of papers published and presented in conferences

- 1) S.Gangamma , D.Sampada, Panigrahi Manisha, R. Kamali Vishaalini, Veekshitha and S.K. Varghese (2020) Measurement and characterization of airborne biological particles from Delhi city. European Aerosol Conference (EAC-2020), Aachen, Germany (Accepted for presentation)
- 2) Gangamma S, Sarkar J., Pradhan P. and Veeksheetha (2019) Air pollution and Respiratory viral infections: Host gene expression and viral entry processes. International conference on atmospheric chemistry and physics in highly polluted Environments-China-India association of atmospheric scientists (CIAAS)-2nd meeting. 22nd March-24th March 2019, IIT Delhi.
- 3) Gangamma S, Vaishnavi H.S., Fenita Hephzibah, Ajay Katti and Veeksheetha (2019) Air pollution Exposure in South Indian Cities: Airborne biological particle and Reactive oxygen species. International conference on atmospheric chemistry and physics in highly polluted Environments-China-India association of atmospheric scientists (CIAAS)-2nd meeting. 22nd March-24th March 2019, IIT Delhi
- 4) Gangamma S. and Desai S. (2019) Air pollution and Inflammation: *Invitro* studies on airborne particulate matter from biomass fuel burning houses. International conference on atmospheric chemistry and physics in highly polluted Environments-China-India association of atmospheric scientists (CIAAS)-2nd meeting. 22nd March-24th March 2019, IIT Delhi
- 5) S. Gangamma, H.S. Vaishnavi, F. Hephzibah, A.P. Katti and Veeksheetha (2019) Air pollution and health: Reactive oxygen species induced by particulate matter from south Indian cities. National Environmental Conference (NEC)-2019, 31st January -2nd February 2019, IIT Bombay.

- 6) Gangamma S, Sarkar J., Pradhan P., Veeksheetha and Saseendran K. (2019) Air pollution and viral infections: Modulation of gene expression pattern due to particulate matter exposure. National Environmental Conference (NEC)-2019, 31st January -2nd February 2019, IIT Bombay.
- 7) Gangamma S., Sarkar J., Veekshitha, and K. Saseendran. (2018) Air pollution and Health: Modulation of antiviral gene expression and viral entry processes. "InterVirocon-2018" November 12th-14th, 2018, PGIMER, Chandigarh.
- 8) Gangamma S., Sarkar J., Pradhan. P., Veekshitha, and Prasanna L.P. (2018) Air pollution and health: Inflammation and reactive oxygen species induced by particulate matter from Hyderabad city. IASTA Bulletin, 23,687-688.
- 9) Gangamma S. and Pradhan. P. (2018) Aerosols and health: Lung adenocarcinoma TCGA gene expression analysis among smokers. IASTA Bulletin, 23, 689-690.
- 10) S Gangamma, S Desai, D K Tripathi, D Vishnu Priya, S Krishnaja (2017) Biological components and inflammatory responses of particulate matter from biomass burning houses. Healthy Buildings Europe 2017
- 11) Gangamma S., Kurup, A., Desai, S., Kurli, R., Seethalakshmi, V., Sowmiya V., Loya, R. and Navakotti, N. (2016) Airborne Biological Particles in Metropolitan Cities in India: Respiratory Deposition and Susceptibility to Bacterial Infection. STOX, International conference on new insights and multidisciplinary approaches in toxicological studies, August 3-5, 2016
- 12) Gangamma S. (2016) Air pollution induced inflammation and hypo-response in macrophages: Compilation of results from Bangalore, Chennai and Mumbai. Inflammation and Tissue homeostasis, IFOM, NCBS, February 3-5, 2016
- 13)Gangamma S. (2016) Airborne bacterial diversity in metropolitan cities of India: Respiratory deposition and health implications. International symposium-MICROHD-2016, February 2016, NIANP, Bangalore
- 14) Gangamma S., Kurup, A., Loya, R. and Navakoti, A. (2014) Biological activities of ambient particulate matter and associated endotoxin at different locations in Bangalore city, IASTA Bulletin, 21(1&2),14-15.
- 15) Gangamma S. (2014) Exposure and circulatory inflammation among wastewater treatment plant workers in Mumbai city, IASTA Bulletin, 21 (1&2), 16-18.
- 16) Gangamma S. (2013) Low level endotoxemia not associated with endotoxin tolerance or priming. 40th Annual conference organized by Indian Immunology Society, New Delhi, India, November 15-17, 2013.
- 17) Gangamma S. (2012) Characterization of airborne biological particles from wastewater treatment plants in Mumbai, IASTA Bulletin, 20(1&2),522-524.
- 18) Gangamma S., Patil, R.S. Mukherji, S. and Chakravorty, D. (2011) Measurement and characterization of biological activities of ambient particular matter at different locations in Mumbai. 104th Annual conference and exhibition organized by Air & Waste Management Association, Orlando, USA, June 21-23, 2011 (Reference Number: 2011-A-378-AWMA).
- 19) Varghese, S. K., and Gangamma. S. (2007) Numerical implementation of cloud droplet activation parameterization in large scale models, International symposium on aerosol – chemistry – climate interactions, November 21-23, PRL, Ahmedabad, India.
- 20) Gangamma. S., Patil, R. S., Varghese, S. K., and Sethi, V. (2005) Personal Exposure to Women in Urban Households, Indo-Norwegian seminar, IIT Kanpur, June 24-25.

- 21) Gangamma. S., Varghese, S. K., Patil, R. S., and Sethi, V. (2005) Effect of natural and forced ventilation systems on decay and deposition rates of particles produced by indoor sources in Indian urban households, Indoor air 2005, September 4-9, Beijing, China.
- 22) Varghese. S. K., Gangamma. S., Patil, R. S., and Sethi, V. (2005) Mass size distributions of fine particulate matter from cooking and estimation of the deposition in the human respiratory system, Indoor air 2005, September 4-9, Beijing, China.
- 23) Gangamma. S., and Varghese, S. K., (2005) Particle deposition studies in experimental chamber and indoor rooms, Asian Aerosol Conference 2005, December 13-16, Mumbai, India. IASTA Bulletin, 17(1), 162-164
- 24) Varghese, S. K., and Gangamma. S., (2005) Deposition of semi volatile organic compounds in human respiratory system, Asian Aerosol Conference 2005, December 13-16, Mumbai, India. IASTA Bulletin. 17(1), 589-590
- 25) Gangamma. S., Varghese, S. K., Patil, R. S., and Sethi, V. (2004) Monitoring and control of indoor air pollution, International Conference on: Aerosols clouds and Indian monsoon, November 15-17, IIT Kanpur.
- 26) Gangamma. S., Varghese, S. K., Patil, R. S., and Sethi, V. (2004) Monitoring and control of air pollution exposure due to domestic cooking in urban areas, IASTA Bulletin, 16(2), 312-315.
- 27) Gangamma. S., Patil, R. S., and Sethi, V. (2004) Indoor air pollution due to domestic cooking in urban households, NHEEI seminar, Bangalore University, Bangalore, November 16-19.

Not published in proceedings

- 1) Gangamma S., Patil, R.S. Mukherji, S. and Chakravorty, D. (2010) Characteristics and associated health parameters of bioaerosols in Mumbai, India. Envirovision-2010. Organized by Indian environmental association & Indian Institute of Technology Bombay. November 23-26. *Awarded the first prize in poster presentation*

Conferences attended

- 1) 4th Indian international conference on air quality management (IICAQM 2019): Measurement, Modelling, Health Risk and Public Policy, 18-20 December 2019, IIT Bombay, Mumbai, India.

List of books written

- 1) S. Gangamma, Rashmi S. Patil and Virendra Sethi. Indoor air pollution due to domestic cooking in urban households. Environmental Science and Technology in India. Edited by Arvind Kumar and R.K.Somashekar. Daya Publishing House. Delhi, 290-296, 2008.
- 2) Kadlimatti, H. M., Gangamma, S. and Varghese, S.K. (2007) Generation of monodisperse aerosols through condensation nuclei control. Air pollution XV. Edited by C.A.Borrego and C.A.Brebbia. WIT press, UK. 505-511, 2007.

Technical Reports

1. Mishra, R., Pandikannan, K., Gangamma, S., Raut, A.A. and Kumar, H., 2020. Imperative role of particulate matter in innate immunity during RNA virus infection. **bioRxiv**.
2. Airborne particulate matter during fog periods in Kanpur city- Inflammatory response and hyporesponse to endotoxin- Dharmendra Singh (IIT Kanpur), Tarun Gupta (IIT Kanpur) and Gangamma S.

Thesis Supervision:

Sl.No	Name of student	Title of thesis	Year of completion	Co-PI
1	Vishaalini Kamali R	CRISPR based method for modulation of phagocytosis genes in human monocytes	2020	-
2	Sampada D	Cell free circulatory DNA extraction and characterization: Relationship between cell free circulatory DNA, nasal microbiota and circulatory inflammatory cytokines	2020	-
3	Manisha Panigrahi	Air pollution, inflammation and reactive oxygen species: Role of airborne Carbohydrate and Levoglucosan	2020	-
4	Ajay P Katti	Application of CRISPR-CAS9 technology to study mechanism of air pollution exposure and bacterial adhesion on human lung epithelial cells	2019	-
5	D. Fenita Hephzibah	Effect of air pollution induced inflammatory cytokines and reactive oxygen species on macrophage phagocytosis	2019	-
6	Vaishnavi H.S.	Effect of airborne particulate matter exposure on Nasal microbiota	2019	-
7	Jheelam Sarkar	Air pollution and Viral infection: Gene expression analysis in human lung epithelial cells	2018	-
8	Payal Pradhan	Bacterial infection and human monocytic cells: effect of	2018	-

		airborne particulate matter exposure on phagocytosis of staphylococcus and streptococcus species		
9	Lakshmi Prasanna	Identification and Characterization of airborne bacterial species from microenvironments	2018	-
10	Krishnaja Saseedaran	Airborne particulate matter exposure: susceptibility to bacterial infection	2017	
11	V. Vishnupriya	Airborne particulate matter exposure in biomass burning households: susceptibility to respiratory infections	2017	-
12	Deepak Kumar Tripathi	Airborne bacteria: Characterization of <i>staphylococcus</i> species in urban microenvironments	2017	-
13	Seethalakshmi V	Airborne bacteria: Characterization and diversity in urban areas	2016	-
14	Sowimya V	Airborne particulate matter induced hypo-response in macrophages	2016	-
15	Rajanya Roy	Biochemical Characterization of Arginine Biosynthesis Pathway In Mycobacterium tuberculosis and its implication in Pathogenesis	2016	Prof. Avadhesh Surolia, IISc
16	Ankita Jena	Role of Sirtuin2 in dexamethasone Induced Muscle Degeneration	2016	Dr.N. Ravi Sundaresan, IISc
17	Samannaya Hazra	Biochemical characterization of the fadE9 Gene (Putative Isobutyryl-CoA Dehydrogenase) of	2016	Prof. Avadhesh Surolia, IISc

		valine Catabolism pathway of Mycobacterium tuberculosis		
18	Santosh Kumar	Studies on whey Abatement Through bioconversion of milk Whey to Ethanol	2016	Dr.H.V. Adikane, NCL,Pune
19	Sanauulla Desai	Air pollution and Health: Particulate matter induced inflammation and tolerance in macrophages	2015	-
20	Shweta Raj	Analysis of the interaction of Cellular Proteins with Rotavirus Viroplasmic Proteins	2015	Prof. C Durga Rao, IISc
21	Gayathri R	Screening and Production of Potential Alcohol Dehydrogenase for Asymmetric Ketone Reduction	2015	Dr. Pramod P Wangikar, IITB
22	R. Rathinam	Enhancement of Lignocellulosic wastes degradation using efficient Marine Derived Fungal Consortia	2015	Dr. Cathrine S Manohar, NIO, Goa
23	Reena Gautam	Understanding the structure Function Relationship of amyloids Relevant to Secretory Granules Biogenesis	2015	Dr. Samir K Maji, IITBombay
24	Subhanshi Agarwal	Norfloxacin coated magnetite nanoparticles to overcome drug resistance in <i>Mybacterium Smegmatis</i>	2015	Dr.Sarika Mehra, IIT Bombay
25	Anisha Kurup	Characteristics of airborne particulate matter from Wastewater treatment plants	2014	-
26	Rajesh Loya	Airborne particulate	2014	-

		matter and Health: Proinflammatory responses		
27	Rashmi R Kurli	Structural diversity analysis of Microbiome associated with Mobile phones to trace opportunistic pathogens	2014	Dr. Yogesh S. Shouche, NCCS Pune
28	Swati Patel	Alpha-1-antitrypsin deficiency: Pathological, biochemical studies	2014	Dr. Asok Mukhopadhyay, NII
29	Santosh Kumar P	Purification of Human p53 and Studying its Aggregation in vitro	2014	Dr.Samir K Maji, IITB
30	Sreeparna Biswas	Structural and functional Analysis of Enter viral 3A Protein	2014	Prof C. Durga Rao, IISc
31	Santosh Kumar	Heterologous expression of a plant Oxidosqualene cyclase	2014	Prof. Sumit Ghosh, CSIR- CIMAP, Lucknow
32	Jyoti Verma	Production purification and characterization of antifungal chitinase from soil isolates	2014	Prof. P.K.Shukla, CSIR-CDRI, Lucknow
33	Dhanaraj Nelapatti	Development of high cell density fermentations for recombinant Nitrilase production by <i>Bacillus Subtilis</i> and <i>E.ColiBL21(DE3)</i>	2014	Prof Pramod P Wangikar, IIT Bombay
34	Harshita Singh	Studies on antimicrobial metabolites from Actinomycetes Species	2014	Prof. P.K.Shukla, CSIR-CDRI, Lucknow
35	Deshpande Pratik Prakash	Separation of Milk Whey proteins using Polymeric membranes	2014	Prof. Harshavardhan Adikane, NCL, Pune
36	Prerna Arora	Structure based drug discovery for deorphanization of FabD, A Novel drug	2013	Prof. Avadhesh Surolia, IISc

		target in Plasmodium falciparum		
37	Manikandan.R	Solubilization of inclusion bodies and its refolding into bioactive form using organic solvents	2013	Dr. Amulya K. Panda, NII
38	Mahima Jaiswal	Alanine Scanning Mutagenesis of amino Acid Residues of Cdr1p, An ABC Multidrug Transporter of Candida albicans	2013	Prof. Rajendra Prasad, JNU
39	Nisha R S	Exploration of Microbes for bioplastic Production	2013	Dr. Binod P, CSIR, Trivandrum
40	Amardeep Gupta	Characterization of Mitogen Activated Protein	2013	Dr. Alok Krishna Sinha
41	Shailesh Kumar Gupta	A numerical model on fog microphysics and visibility	2006	Dr. Suresh K Varghese, NITK, Surathkal
42	H. Kadlimatti	Design and Testing of Condensation Monodisperse Aerosol Generator	2006	Dr. Suresh K Varghese, NITK, Surathkal
43	Iftthikar ahmed	Particle Deposition in Human Lungs; Effect of Water Soluble Fraction	2006	Dr. Suresh K Varghese
44	Umesh Sonawane	Aerosol Removal in Confined Environments	2006	Dr. Y.S. Mayya, BARC, Mumbai
45	Jayalashmi Mordekar	Design, fabrication and testing of three stage cascade impactor	2005	-
46	Manoj Kumar	Chemical Characterization of airborne particulate matter in Mangalore	2005	-

Invited lecture/talk

- 1) Urban air pollution and health: A research summary, Talk delivered at School of Engineering, IIT Mandi, 11th February 2019
- 2) Air pollution, inflammation and health: An Overview. Talk delivered at Department of Civil Engineering, IIT Delhi, 6th February 2019.

3) Air pollution, health and control: An overview. Talk delivered for Mangalore refineries and petroleum Limited, Mangalore staff at NITK Surathkal, 23rd March 2018.

4) Urban air pollution: Inflammation and Infections. Talk delivered at Department of Civil Engineering, IIT Chennai, 2nd November 2017.

5) Airborne bacterial diversity in metropolitan cities of India: Respiratory deposition and health implications. Invited speaker at International symposium-MICROHD-2016, February 2016, NIANP, Bangalore

6) Airborne particulate matter and Health: Inflammation and Regulation. Talk delivered at Department of Civil Engineering, IIT Kanpur on 15th March 2013.

7) Airborne particulate matter and health: A Case study on wastewater treatment exposure. Talk delivered in three day workshop on “Recent Trends in Monitoring, Control and Abatement of Air Pollution” at NITK Surathkal, 26-28th December 2012.

8) Wastewater treatment plant exposure and health. Delivered lecturer to official of Municipal Corporation of Greater Mumbai. 20th October 2012.

9) Exposure and health effects in sewage treatment plants. Environmental Day-2010, Municipal Corporation of Greater Mumbai.

Short term courses/workshops/seminars organized

1. Organizing member of International conference on advances in Chemical Engineering-2015 from 20-22nd December 2015 at Chemical Engineering Department NITK, Surathkal.
2. Coordinator for the National Workshop on “Trends in Aerosol Research- Climate and Health” from 25-26th November 2005, at Chemical Engineering Department NITK, Surathkal.
3. Coordinator for the Workshop on “Air Quality Analysis and Water Quality Analysis” from 8-16th August 2005, at Chemical Engineering Department NITK, Surathkal under TEQIP networking program.
4. Student coordinator for two days National Conference on “Advances in Environmental Engineering and Science” CESE, IIT Bombay, during 8th and 9th December 2003.

Consultancy work done

Currently, I am faculty in-charge for Department level testing and consultancy, Also involved as part of Departmental Group consultancy for industries around Mangalore city.

Organization	Title of project	Amount of grant	Period	Co-investigators
New Mangalore port trust, Mangalore	Supervision of monitoring of air and water samples	-	1998-2002	Group of faculty from Department of Chemical Engg
Sri Ramachandrapura mutta, Hosanagar	Monitoring of air quality during yagnya	200000	2005-2006	-

Industrial experience/interaction

Organization	Nature of work
MRPL, Mangalore	Industrial pollution control

BASF, Mangalore	Occupational health
Graphite India, Bangalore	Occupational health
MCF, Mangalore	Occupational health
KIOCL, Mangalore	Occupational health

Details of commercialization technologies developed

Instrumentation developed for airborne particle measurement: High volume impactor for PM-10 and PM-2.5 sampling, three stage cascade impactor, Nebulizer, Liquid impaction for bioaerosol sampling.

Administrative experience

- 1) Member, Institute library advisory committee
- 2) Member, BOS (Biotechnology), Basveshwar Engineering College, VTU
- 3) Member secretary for Human ethics committee
- 4) Secretary, Institute level Testing and Consultancy
- 5) Member, Institute Grievance Redressal Committee
- 6) Member secretary for Animal ethics committee
- 7) Member, Biosafety committee
- 8) Convener, Institutional Dissection monitoring committee-UGC
- 9) Serving as Institute anti ranging committee member for ladies hostel
- 10) Served as faculty advisor for 3rd, 4th, 5th, 6th, 7th & 8th Semester Chemical Engineering, UG classes
- 11) Served as DUGC/DPGC secretary
- 12) Served as Advisor member for Departmental Testing & Consultancy
- 13) Served as representative for DSIR, New Delhi to work on custom clearance issue on behalf of Institute
- 14) Served as Departmental representative for institute ring presentation ceremony
- 15) Served as Departmental representative for student's election committee
- 16) Served as Treasurer for NITK Staff club
- 17) Served as Member of NITK credit society