

RAMARAO GOLIME, M.Sc, Ph. D

Associate Professor

Epidemiology and Public Health Department

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Career Objective: A highly motivated and enthusiastic biochemist with demonstrated research expertise in biochemistry, proteomics, genomics and mass spectrometry, toxicology and pharmacology fields and would like to use this expertise to contribute the challenging research in the epidemiology and public health of non-communicable diseases.

Education:

2012	Ph.D. in Biochemistry at Defence Research and Establishment Development /Jiwaji University, Gwalior, India.
Thesis title	"Neuronal Signal Transduction and Apoptotic Pathways During Nerve Agent Exposure"
2005	M.Sc (Master of Science) in Biochemistry. Andhra University, Visakhapatnam, A.P. India.
2003	B.Sc (Bachelor of Science) in Chemistry, Biochemistry & Zoology Andhra University, Visakhapatnam, India.

Experience:

Associate Professor at Epidemiology and Public Health Department

Central University of Tamil Nadu, Thiruvarur-610005. India

(Dec-2023 to till date)

Research Scientist at DRDE, Gwalior from 2006 to 2023

Position	From	To	Institution
Scientist 'B'	14-08-2006	30-06-2010	DRDE, DRDO
Scientist 'C'	1-07-2010	30-06-2015	DRDE, DRDO
Scientist 'D'	1-07-2015	30-06-2020	DRDE, DRDO
Scientist 'E'	1-07-2020	28.12.2023	DRDE, DRDO

Postdoctoral fellow: at Molecular Cellular Biology Lab; University of Liege, Belgium:
Involved in the development of live attenuated vaccine against Bovine Leukemia Virus (BLV) and immune response studies of BLV vaccine. Molecular epigenetic and pharmacological studies of mesothelioma and HTLV-1 induced leukemia.

Areas of current research: Proteomics, genomics, mass toxicology and pharmacology fields.

Molecular toxicological and pharmacology aspects of organophosphorus (OP) nerve agents.
My research is focused on the molecular and pharmacological studies of OP chemicals and screening of antidotes using biochemical, molecular, mass spectrometry, genomics and proteomics approaches in in-vitro and in-vivo models.

Development of analytical detection methods for the biomarkers of the toxic chemicals and their metabolites analysis using mass spectrometry to verify their exposure in the biological samples.

Participated in the OPCW, the Netherlands, conducting international proficiency tests for the analysis of CWC related chemicals and their biomarkers to verify their exposure and secured A-grade till now in all 7 BIO-PTs and obtained designation laboratory status for current institute.

Deputy Quality/Technical manager services to maintain the NABL-Accreditation of the current Laboratory. Designing, development and validation of methods. Documentation including preparation of protocols, SOPs, writing and compilation of results and reports, data analysis and maintenance of records as per ISO/IEC-17025/2005 guidelines to maintain quality procedures and system for testing and evaluation. Completed certification course on Laboratory management system awareness and internal auditing as per ISO/IEC-17025/2005 guidelines.

Guest Faculty at Jiwaji University, Gwalior: Delivered several guest lectures in neuroscience, biochemistry and toxicology subjects to master students.

Participated in several national/international scientific conferences, workshops, and organized several science quizzes and currently serving as reviewer of several international journals.

Peer-Reviewed Publications in International Journals:

RamaRao Golime and Naveen Singh: Book chapter: Molecular interactions of chemical warfare agents with biological systems in 'Sensing of Deadly Toxic Chemical Warfare Agents, Nerve Agent Simulants and their Toxicological Aspects' **Elsevier**. 687-710, 2023. **First and corresponding author**.

Aradhana R, Jyoti S. K, Dhankher S, V.K. Sandhya, S.K. Kiran, **Ramarao Golime**, P.K Dash. Development and application of a recombinant Envelope Domain III protein based indirect human IgM ELISA for Kyasanur forest disease virus. *Acta tropica*, 2022,235, 106-114. **Impact Factor: 3.04**.

RamaRao Golime*, M Palit and D.K.Dubey. Adductomics: A Promising Tool for the Verification of Chemical Warfare Agents Exposures in Biological Samples. 2019. *Archives of Toxicol.*3, 28.1-12. **First and corresponding author and Impact Factor: 6.304**

Naveen Singh, **RamaRao Golime****, Acharya, J and M Palit. Quantitative Proteomic Changes after Organophosphorous Nerve Agent Exposure in the Rat Hippocampus. *ACS Chem Neuroscience*.July.2020. DOI: 10.1021/acchemneuro.0c00311.

****Equally contributing and corresponding author. Impact Factor: 5.74**

Chandra B, Shaik M., Waghmare C.K., **RamaRao Golime***, and M Palit. Gas chromatography-tandem mass spectrometry-based detection of half nitrogen mustards in plasma as a new biomarker of nitrogen mustard exposure. *Anal methods*, 2020. 12, 4447-4456. **Impact Factor: 3.53**.

RamaRao Golime*, Naveen Singh, Meehir Palit. Epigenetic and Autophagic changes after Nerve Agent exposure in the Rat Piriform Cortex and Hippocampus. 2019. *Toxicology*. 423, 54-61.

First and corresponding author and Impact Factor: 4.57

RamaRao Golime, Meehir Palit and D.K.Dubey: Neuroprotective efficacy of Galantamine and atropine on nerve agent induced neuroglial and biochemical changes. 2017. *Neurotox Res*. 2017 May; 33(4):738-748. **First and corresponding author and Impact Factor: 3.98**

RamaRao Golime*, PAFhley, J Acharya, Bhattacharya, B.K. Efficacy of antidotes (midazolam, atropine and HI-6) on soman induced molecular and neuropathological changes. BMC Neuroscience, 15, 2014. **First and corresponding author and Impact Factor: 3.7**

Gutierrez G, Rodriguez S, Brogniez A, **RamaRao Golime**, A Burny, J-P Jaworski, I Alvarez, L Vagnoni, K Trono, L Willems. Vaccination against δ -Retroviruses: The Bovine Leukemia Virus Paradigm. Viruses, 1/2014; 6(6):2416-2427. **First and corresponding author and Impact Factor: 5.88**

RamaRao Golime* and Bhattacharya. B.K. 2013. Multiple signal transduction pathways alterations during nerve agent toxicity. Toxicol. Lett. 208. 16-22. **First and corresponding author and Impact Factor: 4.27**

RamaRao Golime*, Bhattacharya, B.K., Subodh Kumar., Waghmare, C.K. 2012. Gene expression and phosphoprotein profile of certain key neuronal signaling proteins following soman intoxication. Toxicology. 290, 195–202. **First and corresponding author and Impact Factor: 4.57**

RamaRao, G*, Acharya, J., Bhattacharya, B.K. 2011. Changes of protein oxidation, calpain and cytoskeletal protein levels in the rat brain after nerve agent exposure. Toxicol. Letters. 203; 227-236. **First and corresponding author and Impact Factor: 4.27**

RamaRao, G*, Waghmare, C., Srivastava, N., Bhattacharya, B.K. 2010. Regional alterations of JNK3 and CaMKII alpha subunit expression in the rat brain after soman poisoning. Human and Exp. Toxicol. 30 (6), 448-459. **First and corresponding author and Impact Factor: 3.27**

RamaRao, G.*, Waghmare, C. K., Gupta, A.K., Bhattacharya, B.K. 2010. Soman-induced alterations of Protein Kinase C isozymes expression in five discrete areas of the rat brain. Drug and Chem. Toxicol. 34 (3): 221–232. **First and corresponding author and Impact Factor: 3.36**

Upadhyay, S., **RamaRao, G.**, Sharma, M.K., Bhattacharya, B.K, Rao, V.K., Vijayaraghvan, R. 2009. Immobilization of acetylcholinesterase–cholineoxidase on a gold-platinum bimetallic nanoparticles modified glassy carbon electrode for the sensitive detection of organophosphate pesticides, carbamates and nerve agents. Biosensors & Bioelectronics. 25, 832-838.

Impact Factor: 12.54

Upadhyay, S., **RamaRao, G.**, Sharma, M.K., Bhattacharya, B.K, Rao, V.K., Vijayaraghvan, R. 2011. Application of bimetallic nanoparticles modified screen printed electrode for the detection of organophosphate compounds using an enzyme inhibition approach. Anal methods, 10; 3(10):2246-2253. **Impact Factor: 3.53.**

Selected Papers Presented in National and International Scientific Conferences/Workshops:

Invited lecture delivered on Molecular Neurotoxic effects of nerve agents at International Conference at Jiwaji university, IAN-2023 Gwalior, India.2023.

Naveen Singh and **RamaRao Golime**: Effects of chronic soman exposure on neurobehavioral and biochemical parameters in model. Poster presented at International Conference at Jiwaji university, at IAN-2023, Gwalior, India.2023.

RamaRao Golime and Naveen Singh: Neuroprotection from nerve agent poisoning using effective drugs at National conference on Chem-Bio Defence; Futuristic tools and technologies. DRDE, Gwalior, 2022.

Naveen Singh and **RamaRao Golime**: Effects of low dose repetitive soman exposure on behavioural and physiological parameters in an animal model at National conference on Chem-Bio Defence; Futuristic tools and technologies. DRDE, Gwalior, 2022.

RamaRao Golime and B.K.Bhattacharya: Neuroprotective efficacy of Galantamine on nerve agent induced biochemical and neurodegenerative changes: 2014-Oral presentation delivered at the IAN-NIMHANS, Bengaluru.

Invited lecture delivered on Neurotoxic effects of chemical warfare agents and toxins combating neurological disorders in CEP course at INMAS, India.2019.

Invited lecture delivered on Efficacy of antidotes on nerve agent induced biochemical changes: at National symposium on Potential of Bioactive compounds at the Andhra University, Visakhapatnam at the Andhra University, Visakhapatnam. 2015.

RamaRao Golime, S. Rodriguez, G. Gutierrez, A. Debrognez, N. Gillet, K. Trono & L. Willems: A new method to deliver an attenuated vaccine against bovine leukemia virus in herds. Oral presentation delivered at the Belgian Society for Virology, Nov- 8, 2013.

RamaRao Golime, J. Acharay and B.K.Bhattacharya: Efficacy of antidotes on nerve agent induced biochemical changes: Oral presentation delivered at the Andhra University, Visakhapatnam. 2013.

RamaRao, G., J. Acharya and B.K. Bhattacharya. Alterations of calpain expression and cytoskeletal protein levels of rat brain after nerve agent exposure. Oral presentation delivered at the Society for Neuroscience of India. 2011. Central University. Hyderabad.

RamaRao, G., C.K.Waghmare, B.K. Bhattacharya. Alterations in JNK3 and CaMKII α subunit expression in the rat brain after soman poisoning. Poster presented at Indo-US Workshop on Chemical and Biological Defence. DRDE, Gwalior, 2010.

S.Upadhyay, **RamaRao, G.,** Bhattacharya, B.K. Rao, V.K. Bimetallic nanoparticles modified screen printed electrode for detection of OP compounds. Oral presentation delivered at ICN-2010, MG University, Kottayam. India.

B.K. Bhattacharya, **RamaRao, G.,** Iti Bansal., C.K.Waghmare., Sub lethal sarin administration differentially regulates rat brain cholinergic mRNA expression and modulation of PKC isoenzymes during soman exposure. Oral presentation delivered at Neurocon-2009, Kolkata. India.

RamaRao, G., C.K.Waghmare, B.K. Bhattacharya. Activation of Protein Kinase C Isozymes and MAP Kinases during soman poisoning. Poster presented at XXVI Annual Conference at Cochin University, Kerala, India. 2008.

AWARDS/ HONORS:

Best Paper Award in Biological Sciences at DRDE - 2020

Laboratory Scientist of the year Award – 2019: for contribution in the development and evaluation of novel antidotes for nerve agents

Director Best Performance Award – 2017

DRDO Technology Group Award – 2015: for contribution in obtaining the OPCW designation status for DRDE, Gwalior in biomedical samples.

Best Paper Award in Biological Sciences at DRDE - Biosensors and Bioelectronics. 2009.

Council for Scientific and Industrial Research-JRF fellowship - 2006 (CSIR-India)

Awarded gold medal for academic achievement during graduation

Ph. D Supervision: 1 (thesis submitted)

Supervised M.Sc. students for project dissertation work: 20

Reviewer of scientific international journals: 05

Publication Citations: 400 plus with H-index: 11 and i10-index: 10

Membership of Professional Societies: Life member of Indian academy of Neuroscience
Member of international society of Neuroscience

Language and Computer Skills: Fluent in English, Hindi and Telugu (Oral and Written)

- Having excellent computer literacy and communication skills:
Experience in handling several software's (X-Calibur, Proteome discoverer, STRING, PANTHER Mascot & Bio-edit, Sequest, PD-Quest, Seqscape sequencing, Brucker Daltonics, & Bio-Plex software's)
- Delivered several invited and guest lectures at various research & academic meetings