CURRICULUMVITAE

Dr. RAVISHANKAR TN
Assistant Professor, Dept. of Chemistry, BMSCE

Bangalore, Karnataka-560019

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9844282689

https://scholar.google.co.in/citations?user=qMLelKAAAAAJ&hl=en

Citations: 1122
h – index: 19
i10-index: 24

Research Interest: Synthesis of nanomaterials for energy applications and water purification

1. Synthesis and characterization of layered transition metal oxides/sulphides, alloys, lithiated transition metal oxides etc, via hydrothermal, solvothermal, ionothermal and combustion method
2. Lithium-ion battery
3. Hydrogen production
4. Degradation of organic dye/industrial pollutants
5. Synthesis of exfoliated graphene oxide and reduced graphene oxide
6. Synthesis of metal oxide/sulphide-reduced graphene oxide hybrid nanomaterials for enhancement of the performance of the lithium battery and photocatalytic properties (H_2 generation via water splitting reaction and degradation of organic dyes)

List of papers published

1. **T.N. Ravishankar**, A. Ananda, J.R. Adarsha, B.M. Shilp. Impact of Ionic Liquids on the Crystal Growth and Surface Morphology of Ruthenium-doped TiO_2 Nano Heterojunction Structures for Improved Photocatalytic Degradation of Evans Blue Dye and the Associated Antibacterial Activities. Nano Biomedicine and Engineering. Publisher: Tsinghua University Press. https://doi.org/10.26599/nbe.2024.9290093. 2024.
2. JR Adarsha, **TN Ravishankar**, CR Manjunatha, T Ramakrishnappa. Green synthesis of nanostructured calcium ferrite particles and its application to photocatalytic degradation of Evans blue dye. Materials Today: Proceedings. 49, 2022, 777-788. https://doi.org/10.1016/j.matpr.2021.05.293.
3. JR Adarsha, **TN Ravishankar**, A Ananda, CR Manjunatha, BM Shilpa, T Ramakrishnappa. Hydrothermal synthesis of novel heterostructured $Ag/TiO_2/CuFe_2O_4$ nanocomposite: Characterization, enhanced photocatalytic degradation of methylene blue dye, and efficient antibacterial studies. Water Environment Research. **2022,** https://doi.org/10.1002/wer.10744.
4. K Arathi, **TN Ravishankar**, Kalyan Raj, KL Nagashree.Efficient catalytic reduction of hazardous hexavalent chromium by cobalt sulfide nanoparticles. Chemical Papers. 75 (9) ,2021, 4707-4718.https://doi.org/10.1007/s11696-021-01655-2.
5. **TN Ravishankar**, M de O Vaz, SR Teixeira. The effects of surfactant in the sol–gel synthesis of CuO/TiO_2 nanocomposites on its photocatalytic activities under UV-visible and visible light illuminations. New Journal of Chemistry, 44 (5), 2020. 1888-1904.https://doi.org/10.1039/C9NJ05246A.
6. **TN Ravishankar**, M de O Vaz, T Ramakrishnappa, SR Teixeira, J Dupont. Ionic liquid–assisted hydrothermal synthesis of Nb/TiO_2 nanocomposites for efficient photocatalytic hydrogen production and photodecolorization of Rhodamine B under UV-visible and visible light illuminations. Materials Today Chemistry, 12, 2019, 373-385.https://doi.org/10.1016/j.mtchem.2019.04.001.
7. Gurunagendra, G., **Ravishankar, T.N**., Ravikeerthi and Raju, B.R. (2019) Dry Sliding Wear Studies of Zinc Aluminium Alloy Containing Micro and Nano Solid Lubricants. International Journal of Engineering Research and Advanced Technology, 5, 7-13. https://doi.org/10.31695/IJERAT.2019.3457.

8. **TN Ravishankar**, Mauricio de O Vaz, T Ramakrishnappa, Sergio R Teixeira, J Dupont, Ranjith Krishna Pai, G Banuprakash. The heterojunction effect of Pd on TiO_2 for visible light photocatalytic hydrogen generation via water splitting reaction and photodecolorization of trypan blue dye. Journal of Materials Science: Materials in Electronics. 29 (13), 2018, 11132-11143.https://doi.org/10.1007/s10854-018-9197-7.
9. Shivaraj B Patil, **TN Ravishankar**, K Lingaraju, GK Raghu, G Nagaraju. Multiple applications of combustion derived nickel oxide nanoparticles. Journal of Materials Science: Materials in Electronics, 29 (1), 2018, 277-287.https://doi.org/10.1007/s10854-017-7914-2.
10. R Anitha, KV Ramesh, **TN Ravishankar**, KH Sudheer Kumar, T Ramakrishnappa. Cytotoxicity, antibacterial and antifungal activities of ZnO nanoparticles prepared by the Artocarpus gomezianus fruit mediated facile green combustion method. Journal of Science: Advanced Materials and Devices, 3(4), 2018, 440-451.https://doi.org/10.1016/j.jsamd.2018.11.001.
11. **Thammadihalli Nanjundaiah Ravishankar**, Mauricio de O Vaz, Thippeswamy Ramakrishnappa, Sergio R Teixeira, Jairton Dupont.Ionic liquid assisted hydrothermal syntheses of Au doped TiO_2 NPs for efficient visible-light photocatalytic hydrogen production from water, electrochemical detection, and photochemical detoxification of hexavalent chromium (Cr^{6+}). RSC advances, 7 (68), 2017, 43233-43244, https://doi.org/10.1039/C7RA04944G.
12. Alamelu K Ramasami, **Thammadihalli Nanjundaiah Ravishankar**, Ganganagappa Nagaraju, Thippeswamy Ramakrishnappa, Sergio Ribeiro Teixeira, R Geetha Balakrishna.Gel-combustion-synthesized ZnO nanoparticles for visible light-assisted photocatalytic hydrogen generation. Bulletin of Materials Science. 40(2), 2017, 345-354, https://doi.org/10.1007/s12034-017-1372-6.
13. **TN Ravishankar**, G Nagaraju, Jairton Dupont. Photocatalytic activity of Li-doped TiO_2 nanoparticles: synthesis via ionic liquid-assisted hydrothermal route. Materials Research Bulletin.78, 2016, 103-111. https://doi.org/10.1016/j.materresbull.2016.02.017
14. Alamelu K Ramasami, **TN Ravishankar**, K Sureshkumar, MV Reddy, BVR Chowdari, T Ramakrishnappa, Geetha R Balakrishna. Synthesis, exploration of energy storage and electrochemical sensing properties of hematite nanoparticles. Journal of Alloys and Compounds, 671,2016, 552-559.https://doi.org/10.1016/j.jallcom.2016.02.050.
15. **TN Ravishankar**, M de Oliveira Vaz, S Khan, T Ramakrishnappa, SR Teixeira, Geetha

R Balakrishna, G Nagaraju, J Dupont. Enhanced photocatalytic hydrogen production from Y_2O_3/TiO_2 nano-composites: a comparative study on hydrothermal synthesis with and without an ionic liquid. New Journal of Chemistry, 40(4), 2016, 3578-3587, https://doi.org/10.1039/C5NJ03711E.

16. S Muralikrishna, **TN Ravishankar**, T Ramakrishnappa, Doddahalli H Nagaraju, Ranjith Krishna Pai. Non-noble metal graphene oxide-copper (II) ions hybrid electrodes for electrocatalytic hydrogen evolution reaction. Environmental Progress & Sustainable Energy, 35 (2), 2016, 565-573. https://doi.org/10.1002/ep.12238.
17. **Thammadihalli N Ravishankar**, Mauricio de O Vaz, S Khan, T Ramakrishnappa, Sergio R Teixeira, Geetha R Balakrishna, G Nagaraju, J Dupont. Ionic Liquid Assisted Hydrothermal Syntheses of TiO_2/CuO Nano-Composites for Enhanced Photocatalytic Hydrogen Production from Water. ChemistrySelect, 1(10), 2016, 2199-2206.https://doi.org/10.1002/slct.201600068.
18. **TN Ravishankar**, K Suresh Kumar, SR Teixeira, C Fernandez, T Ramakrishnappa, Ag Doped Titanium Dioxide Nanocomposite/modified Glassy Carbon Electrode as Electrochemical Interface for Catechol Sensing. Electroanalysis,28 (3), 2016, 452-461.https://doi.org/10.1002/elan.201500238.
19. **Thammadihalli Nanjundaiah Ravishankar**, Thippeswamy Ramakrishnappa, Ganganagappa Nagaraju, Hanumanaika Rajanaika. Synthesis and Characterization of CeO_2 Nanoparticles via Solution Combustion Method for Photocatalytic and Antibacterial Activity Studies. Chemistry Open, 4(2), 2015, 146-154.https://doi.org/10.1002/open.201402046.
20. **TN Ravishankar**, S Muralikrishna, G Nagaraju, T Ramakrishnappa. Electrochemical detection and photochemical detoxification of hexavalent chromium (Cr (vi)) by Ag doped TiO_2 nanoparticles. Analytical Methods, 7 (8), 2015, 3493-3499.https://doi.org/10.1039/C5AY00096C.
21. **Thammadihalli Nanjundaiah Ravishankar**, Thippeswamy Ramakrishnappa, Hanumanthappa Nagabhushana, Virginia S Souza, Jairton Dupont, Ganganagappa Nagaraju. Hydrogen generation and degradation of trypan blue using fern-like structured silver-doped TiO_2 nanoparticles. New Journal of Chemistry, 39 (2), 2015, 1421-1429.https://doi.org/10.1039/C4NJ01403K.
22. **TN Ravishankar**, K Sureshkumar, J Dupont, T Ramakrishnappa, G Nagaraju. Ionic liquid-assisted hydrothermal synthesis of TiO_2 nanoparticles and its applications towards

the photocatalytic activity and electrochemical sensor. Journal of Experimental Nanoscience. 10 (18), 2015, 1358-1373.https://doi.org/10.1080/17458080.2015.1014870.

23. **TN Ravishankar**, K Manjunatha, T Ramakrishnappa, G Nagaraju, Dhanith Kumar, S Sarakar, BS Anandakumar, GT Chandrappa, Viswanath Reddy, J Dupont. Comparison of the photocatalytic degradation of trypan blue by undoped and silver-doped zinc oxide nanoparticles. Materials science in semiconductor processing. 26, 2014, 7-17.https://doi.org/10.1016/j.mssp.2014.03.027.
24. K Manjunath, **TN Ravishankar**, Dhanith Kumar, KP Priyanka, Thomas Varghese, H Raja Naika, H Nagabhushana, SC Sharma, J Dupont, T Ramakrishnappa, G Nagaraju. Facile combustion synthesis of ZnO nanoparticles using Cajanus cajan (L.) and its multidisciplinary applications. Materials Research Bulletin. 57, 2014, 325-334.https://doi.org/10.1016/j.materresbull.2014.06.010.
25. G Nagaraju, **TN Ravishankar**, K Manjunatha, S Sarkar, H Nagabhushana, R Goncalves, J Dupont. Ionothermal synthesis of TiO_2 nanoparticles: photocatalytic hydrogen generation. Materials Letters, 109, 2013, 27-30.https://doi.org/10.1016/j.matlet.2013.07.031.
26. G Nagaraju, K Manjunath, **TN Ravishankar**, BS Ravikumar, H Nagabhushan, G Ebeling, J Dupont. Ionic liquid-assisted hydrothermal synthesis of TiO_2 nanoparticles and its application in photocatalysis. Journal of Materials Science. 48 (24), 2013, 8420-8426.https://doi.org/10.1007/s10853-013-7654-5.
27. A. Ananda, T. Ramakrishnappa, T. N. Ravishankar, L. S. Reddy Yadav & B. K. Jayanna. RSM-BBD optimization approach for degradation and electrochemical sensing of Evan's blue dye using green synthesized ZrO2–ZnO nanocomposite. Inorganic and Nano-Metal Chemistry, DOI: 10.1080/24701556.2023.2165685. https://doi.org/10.1080/24701556.2023.2165685.
28. A. Ananda, T. Ramakrishnappa, T. N. Ravishankar, L. S. Reddy Yadav & B. K. Jayanna. Optimization and Numerical investigation of organic dye degradation using Response Surface by green synthesized ZrO_2 nanoparticles and its antibacterial activity. Journal of water and environmental nanotechnology, 2022 .https://doi.org/10.22090/jwent.2022.03.004.

Academic Qualifications

2013-2017	Doctor of Philosophy Chemistry-Materials Science/Nanomaterials **Supervisor:** Dr.T. Ramakrishnappa, Professor, HOD, Department of Chemistry, BMSIT&M, Bangalore
Mar2015-Apr2016	CNPQ-TWAS Research Fellow Nanomaterials Electrochemistry-Lithium-ion battery **Supervisor:**Sergio Ribeiro Teixeira Instituto de Física da UFRGS - Telefone: +55 (51) 3308-7111 Fax: +55 (51) 3308-7286 Av. Bento Gonçalves 9500 - Caixa Postal 15051 - CEP 91501-970 - Porto Alegre, RS, Brasil
2010-2012	Master of Science (Rank holder, Analytical Chemistry) Department of Chemistry, Central College Campus Bangalore University, Bangalore
2007-2010	Bachelor of Science (Rank holder, Chemistry, Phys. &Maths.) PES Degree College, Bangalore, Bangalore University, Bangalore

Research/Academic Experience

Oct 2023- till date	Assistant Professor, Department of Chemistry BMSCE, Basavanagudi, Bangalore- 560019
Feb 2017–Oct 2023	Assistant Professor, Dept. of Chemistry Global Academy of Technology, RR Nagar, Bangalore-560098
April 2016- Jan 2017	Assistant Professor,Dept. of Chemistry The Oxford College of Engineering Bengaluru, Karnataka 560068
Mar-2015-Apr-2016	**CNPQ**-TWAS Research Fellow, Nanomaterials for Energy Applications **Supervisor:**Sergio Ribeiro Teixeira Instituto de Física da UFRGS - Telefone: +55 (51) 3308-7111 Fax: +55 (51) 3308-7286 Av. Bento Gonçalves 9500 - Caixa Postal 15051 - CEP 91501-970 - Porto Alegre, RS, Brasil
2013-2015	Research Scholar Center for Nano and Material Sciences, Jain University, Jain Global Campus, Jakkasandra, Kanakapura
2012-2013	Chemistry Lecturer Sri Kanaka PU College, Bangalore

1. **Title of CNPq-TWAS fellowship UFRGS, Porto Alegre, Brazil**

CNPq-TWAS FELLOWSHIP PROGRAMME

Title: Ionothermal synthesis of doped TiO_2 nanomaterials for enhanced photocatalytic H_2 evolution

2. **Title of Doctoral research work**

Title: Synthesis and characterization of metal oxide and doped metal oxide nanomaterials for photocatalytic and electrochemical activities.

Conference Proceedings:
List of papers presented in Conferences/Symposia

[1]**T.N. Ravishankar**, K.Manjunath, H. Nagabhushana, J.Dupont, T. Ramakrishnappa, G. Nagaraju. Frontiers and Challenges in Chemistry. 10th, 11th October 2013. M.S. Ramaiah Institute of Technology, Bangalore, Karnataka.

[2]**T.N. Ravishankar**, K. Manjunath, Alamelu. K. Ramasami, H. Nagabhushana, J. Dupont, T.Ramakrishnappa, G.Nagaraju. International Conference on Green Technology. 26th, 27th July 2013. Sastra University, Thanjahur, Tamil Nadu.

[3]**T.N. Ravishankar**, K. Manjunath, Alamelu. K. Ramasami, H. Nagabhushana, J. Dupont,T.Ramakrishnappa, G. Nagaraju, Frontiers and Challenges in Biological Organometallic Compounds, 20th, 21st June, 2013, Don Bosco Engineering college. Bangalore, Karnataka.

[4]**T.N. Ravishankar**, K. Manjunath, Alamelu. K. Ramasami, H. Nagabhushana, J. Dupont, T. Ramakrishnappa, G. Nagaraju, International Conference on Emerging Trends in Chemical and Pharmaceutical Sciences, 28th- 30th June, 2013, JNCASR, Anantapur, A.P.

[5]**T.N. Ravishankar**, K. Suresh kumar, T. Ramakrishnappa, G. Nagaraju, H. Rajanaika, 7th Bangalore Nano International Conference. 3rd – 5th December 2014, Lalith Ashoka Hotel, Bangalore, Karnataka.

[6]**T.N. Ravishankar**, K. Manjunath, T. Ramakrishnappa, G. Nagaraju, ISRS – 2014, 11^{th} – 13th, December 2014. IIT- Chennai. Tamil nadu.

[7] **Ravishankar TN,** Three days FDP on Recent Advances in Basic Sciences for Engineering Applications at DSATM, Bangalore, 8th January, 2018 to10th January, 2018.

[8] **Ravishankar TN,** 15 days FDP on Ethics in Education: Faculty- Student Transformation at GAT, Bangalore, 6thNovember, 2017 to19th November, 2017.

[9] **Ravishankar TN,** National conference on emerging trends in applied Sciences, ETAS-17, 17TH and 18thMay, 2017.Raaraeshwari College of Engineering, Banaglore.

[10] **Ravishankar TN,** National conference on sustainable Engineering and management. 26th-27thMay, 2017, The Oxford College of Engineering, Bangalore.

[11] **Ravishankar TN,**Recent trend in nanoscience and nanotechnology organized by Global Academy of technology, Bangalore on 2nd-3rdMay, 2018.

[12] **Ravishankar TN,**National Symposium and workshop on"E-Waste Management" organized by Global Academy of technology, Bangalore on 11-12th January 2019.

[13] **Ravishankar TN,** Publication ethics scientific writing and latex organized by Global Academy of technology, Bangalore on 28th and 29th, January 2019.

[14] **Ravishankar TN,** National Conference on "Science, Engineering and management (NCSEM-2K19)" organized by The Oxford College of Engineering, Bangalore on 8-9th May 2019.

[15] **Ravishankar TN,** Science Academies lecture workshop on "Nanomaterials Applications in Biotechnology" organized by Department of Biotechnology, *Ramaiah Institute of Technology, Bangalore on 29-30th of August 2019.*

[16] Ravishankar TN, Five day FDP on "Strategic advancement in multifunctional materials" organized by Department of Chemistry, *BMSIT and M, Bangalore on 11th- to 15th February 2020.*

[17] ***Dr. Ravishankar TN,*** an Assistant Professor in the Department of Chemistry, showcased his latest research endeavor titled ***"Ionic liquid-derived hydrothermal Syntheses, Characterization, and Photocatalytic Activity of Li-doped CuO Nanoparticles"*** at the prestigious **International Conference on Science & Technology for Sustainable Future-Health, Energy, Environment**

(ICSTSF-2024). Held at Acharya Institute of Technology on **May 29th-31st, 2024:** in Bangalore-560107.

[18] ***Dr. Ravishankar TN,*** 7 day Faculty Development Program on " Recent Innovations in Green and Sustainable Energy" was jointly organized by the Department of Biotechnology, Chemistry and Chemical Engineering, Dayananda Sagar College of Engineering Bangalore, on 23rd -29th Feb 2024.

Conference/Workshop organizer

1. Organized five-day FDP on '"Recent Trends in Sustainable Energy Management and Green Chemistry" as Convener at December 6-10, 2021, Dept. of Chemistry, Global Academy of Technology, RR Nagar, Bengaluru
2. Organized five-day FDP on "Recent Trends in Engineering Materials, Nano Science and Nano Technology" as Convener at December 9-13, 2020, Dept. of Chemistry, Global Academy of Technology, RR Nagar, Bengaluru

Short term training programme

1. As a co-ordinator, conducted short term research project training programme for MSc students on 'Concepts of Nano and its characterization methods' in collaboration with Dept. of Chemistry, Mangalore University, Mudipu - konaje, Mangalagangotri, Mangaluru, Karnataka 574199.

Awards/Achievements

1. Awarded as International CNPq-TWAS sandwich fellowship under the guidance of Prof. Sergio Ribeiro Teixeira and Prof. Jairton Dupont, UFRGS, Porto Alegre, Brazil.

Title: Ionothermal synthesis of doped TiO_2 nanomaterials for enhanced photocatalytic H_2 evolution during March 2015-April 2016.

2. Dr. Ravishankar TN, Assistant Professor, Department of Chemistry has presented research paper entitled "Ionic liquid assisted hydrothermal synthesis of Nb/TiO2 nanocomposites for efficient hydrogen production" has been awarded best paper track at National Conference on "Science, Engineering and management (NCSEM-2K19)" organized by The Oxford College of Engineering, Bangalore on 8-9th May 2019.

3. Dr. Ravishankar TN, Assistant Professor, Department of Chemistry has published one of the research articles with title as "Synthesis and characterization of CeO2 nanoparticles via solution

combustion method for photocatalytic and antibacterial activity studies" has been considered as most cites chemistry article (136 citations) from ChemPubSoc Europe, ACES and GDCh journals from 2015 to till date according to the survey from Chem Views Magazine: Chemistry view. 4

4.2016- 2017 Selected for SRF under Jain University. 2013-2014 Selected for JRF under Jain University.

5. Nominated as a Member of Board of Studies (BoS) for Engineering Chemistry. at Dept. of Chemistry, Global Academy of Technology, RR Nagar, Bengaluru.

List of equipment available for collaboration research work

No.	**List of Equipments**
1	Scanning Electron Microscopy
2	Energy Dispersive Spectroscopy
3	Powder X- ray diffraction
1	UV-Visible Spectrophotometer
2	Atomic Absorption Spectrometer
3	Rota vapour
4	Muffle furnace
5	Hot air oven
6	Hydrothermal bombs-Autoclaves
7	Centrifugation Unit
8	Sonicator
9	Fumehood
10	UV hood/chamber for photocatalysis
11	Vacuum pump
12	UV and Visible source Photoreactor,
13	Electronic balance
14	Micro wave oven
15	pH meter

Recognized as a Reviewer to reputed International Journals

1. New Journal of Chemistry
2. RSC Advance
3. Applied Catalysis B: Environmental
4 J. Materials Science and Semiconductor Processing
5. J. Molecular Catalysis
6. J. Current Nanoscience Science of Advanced Materials
7. J. Alloys and Compounds
8. British Journal of Applied Science &Technology
9. Materials Science and Engineering B
10. International Research Journal of Pure and Applied Chemistry
11. BioMed Research International
12. Nanotechnology
13. Chemistry Central Journal
14. Bulletin of Materials Science
15. Journal of Inorganic Materials
16. International Journal of Hydrogen Energy
17. Materials Research Express

Research Collaborations			
International			
Prof. Jairton Dupont, FRSC.	ESPSRC/GSK Professor in Sustainable Chemistry School of Chemistry University of Nottingham, UK.	Prof. Sergio R.Teixeira	Laboratory of Thin Films and Nanostructure Fabrication (L3Fnano),Institute of Physics,UFRGS, PortoAlegre, Brazil
Prof. Maurício Vaz de Oliveira	Laboratory of Thin Films and Nanostructure Fabrication (L3Fnano), Institute of Physics, UFRGS, Porto Alegre, Brazil	Prof. Sherdil Khan adj. Professor	Instituto de Física, Universidade Federal do Rio Grande do Sul,UFRGS,Porto Alegre, RS,Brazil
National			
D. H. Nagabhushan	Assoc. Professor Dept. of Physics, Tumkur University, Tumkur	Dr. H. Rajanaik	Asst. Professor Dept. of Env. Science. Tumkur University, Tumkur
Dr. G. Nagaraju	Assistant Professor Dept. of Chemistry Siddaganga Institute of Technology	Dr. T. Ramakrishnappa	Assoc. Professor and HOD Dept. of Chemistry, BMSIT &M, Bangalore

Role and responsibility handled

1. Department level R & D coordinator, Global Academy of Technology
2. In charge of Centre for Nanoscience and Nanotechnology, Global Academy of Technology
3. Engineering chemistry Lab in charge, Global Academy of Technology
4. Research Project internship coordinator, Global Academy of Technology
5. Department level NAAC coordinator, Global Academy of Technology
6. Department level NBA coordinator, Global Academy of Technology
7. Department level Course coordinator, Global Academy of Technology
8. As Convener to organize workshop, FDP, and national/ international conferences.
9. Nominated as a Member of Board of Studies (BoS) for Engineering Chemistry. at Dept. of Chemistry, Global Academy of Technology, RR Nagar, Bengaluru.

Personal details

Date of birth 08/07/1989

Marital status Married (01 son)

Nationality Indian

Languages known English, Kannada

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Postal address Near Basavanna Temple
Thammadihalli, Maskal post
Tumkur (Tq) and Tumkur (Dist)- 572122

Mobile number +91-9483782509

I hereby declare that the above-mentioned information is true to the best of my knowledge.

Place:
Signature
(Dr. Ravishankar TN)