


Title	Dr	First Name	SUNILA	Last Name		Photograph
Designation	Assistant Professor					
Address	21, Sunrise Apartments, D- Block, Vikaspuri, New Delhi -110018					
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Educational Qualifications						
Degree	Institution				Year	
BSc	MDU, Rohtak				1997-2000	
MSc (Microbiology)	Kurukshetra University				2000-2002	
PhD (Biotechnology)	Guru Gobind Singh Indraprastha University, New Delhi				2004-2011	
Career Profile						
<ul style="list-style-type: none"> • Assistant Professor Department of Microbiology, Ram Lal Anand College since 11th April 2023 • Assistant Professor (ad-hoc), Department of Microbiology, Ram Lal Anand College since Since Jan 2016 till 10th April 2023 • Principal Investigator Project, (DBT-BioCARE), School of Biotechnology, GGS Indraprastha University, New Delhi from Nov 2012- Jan 2016 • Research Associate, School of Biotechnology, GGS Indraprastha University, New Delhi from Sep 2010 – Oct 2012 						
Administrative Assignments						
<p>Current:</p> <p>Convener, Mikrobiologika (2022-23)</p> <p>Co-Convener, Prospectus Committee (2022-23)</p> <p>Co-convener, Function Committee (2022-23)</p> <p>Co-convener Yoga and Meditation Society (2022-23)</p> <p>Member, Advisory Committee, DBT-Star College Scheme- RLA College</p> <p>Previous:</p>						

<p>Convener, Yoga and Meditation Society (2020-21) Co-convener, Prospectus Committee (2020-21) Co-convener, Yoga and Meditation Society (2019-20) Member, Counseling and Placement Cell (2020-21), Member, Functions Committee, Member, Alumni Committee, Member, Women Welfare Advisory Committee Member, Debate and Quiz Society</p>
<p>Areas of Interest / Specialization</p> <p>Plastic biodegradation, Metagenomics, functional genomics, Cyanobacteria, Nutrient limitation and response</p>
<p>Subjects Taught</p> <p>Bioinformatics, Molecular Biology, Bacteriology, Biosafety and Intellectual Property Rights, Instrumentation and Bio -techniques</p>
<p>Research Guidance</p> <ul style="list-style-type: none"> • Co-Supervisor, M. tech thesis on “In-vivo and in-vitro interaction studies of NtcB and PII in <i>Arthrospira platensis</i> PCC 7345” submitted by Sunaina Verma, GGS Indraprastha University, Delhi
<p>Publications Profile</p> <ul style="list-style-type: none"> • Hooda, S., Malik, G., Saini, P., Grewall, A., & Pandey, V. C. (2023). Cyanobacteria as a potential bioasset for restoring degraded land. <i>Land Degradation & Development</i>, 1– 16. https://doi.org/10.1002/ldr.4711 • Bahuguna, M, Hooda S, Mohan L, Gupta RK, Diwan P. (2023) Identifying oral microbiome alterations in adult betel quid chewing population of Delhi, India. <i>PLOS ONE</i> 18(1): e0278221. https://doi.org/10.1371/journal.pone.0278221 • Saini, P., Grewall, A. Hooda,S. (2022). In silico approach for identification of polyethylene terephthalate hydrolase (PETase)-like enzymes. <i>Bioremediation Journal</i>, https://doi.org/10.1080/10889868.2022.2054931 • Moring, A, Hooda, S., Raghuram, N., Adhya, T.K. et al (2021). Nitrogen challenges and opportunities for agricultural and environmental science in India. <i>Frontiers in Sustainable Food Systems</i>, 5, 505347. doi: 10.3389/fsufs.2021.505347 • Lochab, S., Kumar, P.A. and Raghuram N. (2014). Molecular characterization of nitrate uptake and assimilatory pathway in <i>Arthrospira platensis</i> reveals nitrate induction and differential regulation. <i>Arch. Microbiol.</i> DOI 10.1007/s00203-014-

0973-3.

- Pathak, R.R and **Lochab, S.** (2010). A method for rapid isolation of total RNA of high purity and yield from *Arthrospira platensis*. Canadian J. of Microbiol. 56(7): 578-584.
- **Lochab, S.**, Oberoi, H.S., Gothwal, M., Abbey, D. and Raghuram N. (2009). Nitrate assimilatory enzymes are more thermotolerant in *Spirulina (Arthrospira) platensis* than rice. Physiol Mol Biol Plants 15 (3): 277-280.
- Pathak, R.R., Ahmad, A., **Lochab, S.** and Raghuram, N. (2008). Molecular physiology of plant N-use efficiency and biotechnological options for its enhancement. Curr. Sci. 94 (11): 1394-1403.

Book Chapters

- Khurana,R., Maurya, M., Swami, S., Hooda, S. (2022). Anticancer Compounds from Selected Medicinal Plants: An update, In: Medicinal Plants: Ethnomedicine, Pharmacognosy and Therapeutic Values, Editor(s): (Amita Sharma, Garima Malik, Sanyogita Kumar, pp:182-205, ISBN: 978-93-90879-31-1, Anu Books, India., DOI: <https://doi.org/10.31995/Book.AB220-A22>.
- Malik,G., **Hooda, S.**, Majeed, S., Pandey, VC (2022). Understanding assisted phytoremediation: Potential tools to enhance plant performance, In: Assisted Phytoremediation, Editor(s): Vimal Pandey, Elsevier, 2022, Pages 1-24, ISBN 9780128228937, <https://doi.org/10.1016/B978-0-12-822893-7.00015-X>
- Malik, G., Chugh, S., Hooda, S., Chaturvedi, R. (2022). Plant Growth Promoting Rhizobacteria (PGPR)-Assisted Phytoremediation of Contaminated Soils. In: Singh, A.K., Tripathi, V., Shukla, A.K., Kumar, P. (eds) Bacterial Endophytes for Sustainable Agriculture and Environmental Management. Springer, Singapore. Pp71-93, Print ISBN: 978-981-16-4496-2, Online ISBN: 978-981-16-4497-9 https://doi.org/10.1007/978-981-16-4497-9_4
- Malik, G., Chaturvedi, R, **Hooda, S.** (2021). Role of herbivore-associated molecular patterns (hamps) in modulating plant defenses. In: Singh I.K., Singh A. (eds) Plant-Pest Interactions: From molecular mechanisms to chemical ecology. Springer, Singapore. ISBN (978-981-15-2466-0), Online ISBN (978-981-15-2467-7). https://doi.org/10.1007/978-981-15-2467-7_1
- Malik G., Singh N., **Hooda S.** (2020). Nitrogen Stress in Plants and the Role of Phytomicrobiome. In: Kumar M., Kumar V., Prasad R. (eds) Phyto-Microbiome in Stress Regulation. Environmental and Microbial Biotechnology, Springer, Singapore Print ISBN:978-981-15-2575-9, Online ISBN:978-981-15-2576-6
- Sutton, M. A., Drewer, J., Moring, A., Adhya, T., Ahmad A., Bhatia, A., Brownlie, W., Dragosits, U., Ghude, S. D., Hillier, J., **Hooda, S.**, ... and Raghuram, N. (2018). The Indian nitrogen

challenge in a global perspective. In: The Indian Nitrogen Assessment: Sources of Reactive Nitrogen, Environmental and Climate Effects, Management Options, and Policies.: Abrol, Y. P., Adhya, T. K., Aneja, V. P., Raghuram, N., Pathak, H., Kulshrestha, U., Sharma, C. and Singh, B. (Eds) Elsevier, UK. ISBN: 978-0-12-811836-8. Pp. 9-28

- Improving nitrogen use efficiency. In: Comprehensive Biotechnology (2011) Pathak, R.R., **Lochab, S.** and Raghuram N 2nd Edition **Vol 4**, pp.209-218, Elsevier, Oxford. ISBN: 978-0-08-088504-9
- **Lochab, S.**, Ali, A. Jha, P., Sharma, V., Abbey, D. and Raghuram, N. (2010). Assay methods for nitrate assimilatory enzymes in *Spirulina (Arthrospira)*. In Protocols in Algal Research, Bagchi, S.N. Mohanty, P. and Kleinber, D. (Eds). Narosa, pp.179-189. ISBN: 978-81-8487-059-6.
- **Lochab, S.**, Pathak, R. R. and Raghuram, N. (2007). Molecular approaches for enhancement of nitrogen use efficiency in plants. In Agricultural Nitrogen use & its Environmental Implications, Y.P. Abrol, N. Raghuram and M.S. Sachdev (Eds). IK International, Delhi. Pp. 327-350. ISBN: 978-81-89866-33-4
- Sequence submissions in GenBank (NCBI): **16**

Conference Organization/ Presentations

Invited talks:

- Resource Person, “one-week Hands-on workshop on Basic Techniques in Microbiology jointly organized by Ram Lal Anand College, Centre for Innovation in Infectious Disease Research, Education and training (CIIDRET) & Delhi School for Skill Enhancement & Entrepreneurship Development (IoE- DSSEED), University of Delhi”, 17th December 2022-23rd December 2022
Title of the talks: 1) Sterilization techniques ii) Instruments used in Microbiology laboratory
- Resource Person, “Referencing using EndNote & Mendeley” in the certificate course on ‘Scientific writing & Research Ethics’” organised by Ram Lal Anand College, University of Delhi, on 24th July 2020 .
- Resource person, International Conference on “Changing Environment: Understanding the Emerging Challenges and their Management Strategies” 10th-12th April, 2019 Conference Centre, North Campus, University Enclave, Organized by Kalindi College, University of Delhi.
Title of the talk “The Arthrospira model of nitrogen stress: signals from metabolism”
- Resource person, 1st - DBT BioCARE Conclave: Women Scientists achieving greater heights” from 8th-9th March 2019 NIPGR, New Delhi.
Title of the talk “Molecular characterization of nitrate assimilation and protein productivity”
- Resource person, 5 Days INSET program for Eco club Incharge Teachers, SCERT New Delhi, 26th-27th July 2013.
- Resource person, 5 Days INSET program for Eco club Incharge Teachers, SCERT New Delhi, 11-13th October 2012.

Conference presentations (last 5 years)

- Saini, P. Grewall, A. and **Hooda, S.** (2021). *In Silico* approach for identification of potential plastic degrading bacteria, International Conference “The World Microbe Forum 2021” organized online by ASM and FEMS from 20-24 June 2021.
- **Hooda, S.**, Raghuram, N. (2018). Prospects of developing *Arthrospira (Spirulina) platensis* as a bioremediation tool for potable water sources. National Conference on “Strategies to Mitigate the Effects of Climate Change: Steps Towards Sustainable Development” 8-9 December, 2017 at Maharaja Agrasen University, Baddi, District Solan, H.P.
- Sharma S, Akanksha, Joshi M, Chopra U, Sharma A, Barik V, Mehta S, Jyoti N, Rashmi, Sharma SK, Gupta V, **Hooda S** and Gupta RK. Occurrence of carbapenem and multidrug resistant Gram positive bacteria in air of overcrowded subway metro stations in Delhi, India. 57th Annual Conference and International Symposium of Association of Microbiologists of India, Guwahati, Assam, 24-27 November 2016.
- Sharma S, Akanksha, Joshi M, Chopra U, Sharma A, Barik V, Mehta S, Jyoti N, Rashmi, Sharma SK, Gupta V, **Hooda S** and Gupta RK. Dissemination of antimicrobial resistance among aeromicroflora of Delhi environment: a serious public health implication. International Conference on Strategies for Environmental Protection and Management (ICSEPM-2016), JNU, New Delhi, 11-13 December, 2016.
- **Lochab, S.**, Angmo, S., Singh N., Mishra, S. and Raghuram, N. (2015). Understanding the role of PII protein in *Arthrospira platensis* PCC 7345. 6th Congress of European Microbiologists, FEMS 2015, 7th-11th June 2015 in Maastricht, Netherlands.

Refresher course/Orientation/ Professional Course/ NPTEL course attended:

- 4-Week Faculty Induction/Orientation Programme for “Faculty in Universities/Colleges/Institutes of Higher Education” from 23 April – 22 May, 2023 and obtained Grade A+.
- Certificate Course on “Bioinformatics Methods I”, 8 weeks, 27th May 2020, University of Toronto, Canada on Coursera
- Certificate Course on Bioinformatic Methods II, 4 weeks, 18th June 2018, an online non-credit course authorized by University of Toronto, Coursera
- Certificate Course on Plant Bioinformatics, 6 weeks, July 13, 2020, an online non-credit course authorized by University of Toronto, Coursera
- Certificate Course on Antimicrobial resistance - theory and methods, 5 weeks, 11th July 2020, an online non-credit course authorized by Technical University of Denmark (DTU), Coursera
- Certificate Course on Biohacking Your Brain's Health, 4 weeks, August 3, 2020 an online non-credit course authorized by Emory University, Coursera
- Certificate Course on “Whole genome sequencing of bacterial genomes tools and applications” 5 weeks, 24 May 2020, Offered by Technical University of Denmark on Coursera
- NPTEL online certification on Biomedical Nanotechnology, 4 weeks (Aug-Sep 2019), NPTEL

- NPTEL Mentor certificate, Computer aided drug design, July-Dec 2019 NPTEL SWAYAM
- Certificate course on “Emerging respiratory viruses, including COVID-19: Methods for detection, prevention, response and control”, April 20, 2020, Open WHO
- Certificate course on “Presentation Skills: Designing Presentation Slides”, 4 weeks, 15th May 2020, offered by National Research Tomsk State University, Russia on Coursera
- Certificate Course on “Severe Acute Respiratory Infection (SARI) Treatment Facility Design”, 21st April 2020, Open WHO

Conference/Seminars/webinars/events organized (last five years)

- Coordinator for an Outreach workshop Under DBT Star College Scheme titled “How micrororganisms look, grow and replicate” organized by the Department of Microbiology, Ram Lal Anand College on 2nd November 2022 for students of class XI and XII, DLDAV Public School, RK Puram
- Coordinator for an Outreach workshop Under DBT Star College Scheme titled” How micrororganisms look, grow and replicate” organized by the Department of Microbiology, Ram Lal Anand College on for students of class X1 and X11, Ramjas International School, RK Puram
- Member organizing team for an Outreach workshop Under DBT Star College Scheme titled” Journey To The Microbial Realm” organized by the Department of Microbiology, Ram Lal Anand College on 11th October, 2022 for students of class VIII at Apeejay School Panchsheel Park,
- Coordinator, Hands-on Summer Training under DBT star college scheme on “Exploring and Identifying Microbial diversity” organized by the Department of Microbiology, Ram Lal Anand College from 13th July 2022- 17th July 2022.
- Coordinator, webinar on “Be cancer Aware” on 22nd March 2021, Mikrobiologika, Department of Microbiology, Ram Lal Anand College in association with Rajiv Gandhi Cancer Institute and Research Centre.
- MIKROVITAE 2021 (online), the annual department fest of Mikrobiologika, on 3rd April 2021, Ram Lal Anand College, University of Delhi, New Delhi 110021
- ONLINE YOGA SESSION was organised on 21st June 2021 (7:30 am- 8:45 am) on the occasion of 7th International Yoga Day.
- Convener, Interdepartmental Online Yoga Competition, 20-21st June 2021
- 40 hours online certificate course on "Python in Biological Sciences" 16th January 2021 to 11th April 2021, Ram Lal Anand College, University of Delhi,
- 4 weeks online certificate course for students entitled “Scientific writing and Research Ethics” 13th July 2020 to 7th August 2020, Ram Lal Anand College, University of Delhi.
- Co-coordinator Live asana and Quiz Competition in association with Shri Yog Pragati & State Yoga Sports Association, Delhi 25-28th June 2020
- Online Yoga session on 21st June 2020, 8:00 am- 9:00 am on the occasion of 6th International Yoga Day.
- Member, Organizing Committee, International Seminar on “Nanoparticles in Biology” 29th Jan, 2020 at Ram Lal Anand College, University of Delhi, New Delhi.
- Member, Organizing Committee: One Day National Seminar on “Meta-genomics and

Genome Editing' 5th February 2020 organized under Department of Microbiology, Ram Lal Anand College

- Member, Organizing Committee: Microvitae (Festival of Department of Microbiology) 4th February 2020, with keynote lecture on “Synthetic Biology: from concept to applications”, Ram Lal Anand College.
- Member, Coordinating Committee, Training Program on “ICT tools for Beginners” organized by Ram Lal Anand College on 18-19 January 2019.
- Judge for Oral Presentations, International Conference on “Changing Environment: Understanding the Emerging Challenges and their Management Strategies” 10-12 April, 2019, Conference Centre, North Campus, University Enclave, Organized by Kalindi College, University of Delhi
- Member, Organizing Committee, National Seminar on “Probiotics: Ameliorating The Burden of Lifestyle Disorders” organized by Department of Microbiology, Ram Lal Anand College in association with Probiotic Association of India on 1st Feb 2019.
- Co-presenter and Volunteer, International Conference on “Challenges and opportunities for agricultural nitrogen science in India” at NASC Complex, Pusa, New Delhi from 3-5 October, 2017
Title of the talk- Investigating the phenotype and genotype for N-response and NUE in rice
- Member, Organizing Committee, International Seminar on “Infectious Diseases: Current Strategies for Diagnosis and Therapy”, organized at Ram Lal Anand College, New Delhi, 2 Feb 2018

Conference/Seminars/webinars/events Attended (last five years)

- Attended, Antimicrobial Chemotherapy conference 2021 ONLINE from 2-3 Feb 2021, Organized by British Society for antimicrobial Chemotherapy, UK.
- Attended International Webinar, Antimicrobial Surveillance and consumption data – how, what and why to measure to provide meaningful data, 17th Sep 2020, organized by British Society for Antimicrobial Chemotherapy, UK.
- Attended FEMS webinar on Vaccines in the time of COVID 19 10th Mach 2021, International.
- FEMS Yeast Research Webinar on Genomic Insights into Yeast Diversity and Evolution" Jan 28, 2021, International Webinar
- Attended, Coronavirus Virtual Event Series on 17th Sep 2020 Labroots Inc, US, International Conference
- Attended, virtual “11th India Probiotic Symposium” – Role of gut microbiota and probiotics in reducing viral infections –mechanisms to combat them from 13th & 14th March 2021, PAI (International)
- Attended Two day National Conference entitled “Self-reliant India: A Gandhian Perspective” from 28th -29th September, 2020 organised by Gandhi study circle and Gujarat Vidhyapeeth, Deemed University, Ahmedabad

- Attended Webinar Series 2020, Natural Molecules Against SARS-CoV-2: A Molecular Modelling Study' July 7, 2020 organized by the Department of Microbiology, BCAS, DU
- Attended Webinar series "Igniting through Science", 28th April-3rd May 2020, Department of Microbiology, IHE, DU.
- Attended, Two days Interactive webinar covering Lifestyle, weight management, Nutrition and Immunity from 23rd -24th June, 2020 jointly organised by Department of Physical Education and IQAC, Ram Lal Anand College, University of Delhi.
- Attended, International Webinar on Impact of COVID-19 on Society and Education: a perspective 20th June 2020 organized by SSN college, DU
- Attended, International Summit on Women in STEM-'Visualizing the Future: New Skylines (Summit ISW-2020)", January 23-24, 2020 organized by DBT & ICGB at India Habitat Centre, Lodhi Road, Delhi.
- Attended, National Conference on "Wellness India and Krishi India Expo 2018" at Pragati Maidan, New Delhi on 20-22 August, 2018.
- Attended, International Conference "4th Smart Cities India 2018 and Expo" organized at Pragati Maidan, New Delhi 23-25 May 2018
- Attended, Wellness India conference and Exhibition, 2017 at Pragati Maidan, New Delhi from 29-31 Aug 2017.

FDP/ workshops organized (last five years)

- Convener, 2 days National Workshop on "Holistic Fitness - Boost your immunity and prevent illness" , 23-24th June 2021 (2:00-4:00 pm, Zoom) by Yoga and Meditation society in collaboration with the Department of Physical Education, RLA College.
- Coordinator, One Month Online Yoga Workshop (zoom) from 1st- 30th June 2021 by Yoga and Meditation Society, RLAC.
- Coordinator, 2 days DBT Sponsored National Workshop on MOLECULAR DOCKING IN DRUG DESIGN from 31st March to 1st April 2021, organized by Department of Microbiology, Ram Lal Anand College under DBT -Star College Scheme.
- Member, Organizing Committee, Online Faculty Development Program on Biosafety, Bioethics and IPR, 1 week (24-28 August 2020), organised by Department of Microbiology, Ram Lal Anand College, University of Delhi.
- Resource person on 24th July 2020 titled "Referencing using EndNote & Mendeley" in the certificate course on 'Scientific writing & Research Ethics'" organised by Ram Lal Anand College, University of Delhi.
- Member, Organising team, Certificate course on 'Python in Biological Sciences" organised by Ram Lal Anand College, University of Delhi.
- Coordinator, One Month Online Yoga Workshop from 1st- 30th June 2020 by Yoga and Meditation Society, RLAC in association with Shri Yog Pragati.
- Co-Organizer Workshop on "International Yoga Day 2019" 3-day 19-21st June 2019, RLA College
- Member, Organizing Committee, Workshop on "International Yoga Day 2018" 3-day 19-21st June 2018, RLA College
- Member, Organizing Committee, Workshop on "International Yoga Day 2017" 3-day 19-

21st June 2017 RLA College

FDP/ workshops Attended (last five years)

- Attended, 6 days of Online Hands-on Workshop on Next-Gen Drug Discovery Software for Lead Optimisation from April 9th to April 24th 2021 organised by Zastra Innovations, Bangaluru (International)
- Attended National workshop titled “Bacterial Genome Identification, Sequencing And Characterization” on 20th April, 2022 (online), organized by Centre for Innovation in Infectious Disease Research, Education and Training (CIIDRET) and Delhi School of Skill Enhancement and Entrepreneurship Development (DSSEED-IOE), University of Delhi
- Attended, Online Workshop on Introduction to Systematic Reviews and Meta-Analysis in Health Research from 17th - 18th March 2021 by ICMR National Institute of Medical Statistics
- Attended Online Bioinformatics Workshop, 12 - 13 April, 2021, Department of Microbiology, Institute of Home Economics,
- Attended Online Faculty Development Program on ICT Tools for Effective Teaching Learning, 1 week (5-9 August 2020), organized by Media Production Centre in association with Internal Quality Assurance Cell (IQAC).
- FDP on Biomedical Nanotechnology, 4 weeks (Aug-Sep 2019) , NPTEL-AICTE
- Attended Workshop on “Stress Management Skills” 1 day, 22nd October 2019 organized by Centre for Human Values, Ethics and Life Skills, RLA College
- Attended FDP on “Quality assurance in HEIs: Reorienting Teaching-Learning Paradigm” organized by Ram Lal Anand College on 15-19 March 2019.
- Attended National Symposium & workshop “Yoga and Meditation for the holistic wellbeing” at Daulat Ram college, University of Delhi on 7 March 2019.
- Attended, FDP “Writing Research Proposals and Addressing IPR Related Issues” organized by Ram Lal Anand College on 29-30 March 2019
- Attended Workshop on Intellectual Property Rights (IPR) and Entrepreneurship : How to kick start your start-up” kick start your start-up”kick start your start-up” Organized at Ram Lal Anand College on 30th March 2019.

Research Projects (Major Grants/Research Collaboration)

- DBT funded research project on "**Molecular characterization of nitrate response and N metabolism in *A. platensis***" of 25.95 lakhs, (2012-2016)
- DBT- BBSRC UK funded research project on "**Newton-Bhabha Virtual Centre on Nitrogen Efficiency of Whole-cropping Systems for improved performance and resilience in agriculture (NEWS India-UK)**" as Co-PI, (2016-2018), 17 June 2016 – 16 Dec 2019
- **Resistome metagenomic profiling of bioaerosols in metro network in Delhi-** NCR, (Dr R K Gupta, **Dr Sunila (Co-PI)**, Dr Prerna Diwan), (2021-2024) **ICMR**, Government of India

- **Isolation and screening of plastic degrading bacteria from soils collected from different landfill sites of Delhi, CRG Project 2020-22**

Awards and Distinctions

- DBT travel grant June, 2015 (DBT/CTEP/02/201500409)
- Awarded Bio-CARE fellowship (November, 2012)
- Assistant Editor of the Springer journal (Physiology and Molecular Biology of Plants)
- CSIR RA /SRF extended from September, 2010- October 2012.
- Qualified the CSIR/UGC-NET examination for the JRF in December, 2002.

Association With Professional Bodies

- Assistant Editor, Springer journal (Physiology and Molecular Biology of Plants) since 2009
- Life Member, SCON (Society for conservation of Nature)
- Life Member, AMI (Association of Microbiologists)
- Life member, PAI (Probiotics Association of India)
- Member, British Society for Antimicrobial Chemotherapy since 1 January 2021
- Life member, MSI

Other Activities