

AASHEESH KUMAR

161 G, Chipiyana Khurd, Ghaziabad, U.P. India, 201009

Email : aasheeshkumar@gmail.com

Contact: +91 7827139944

Professional Summary

A full-time scholar, with a great interest in human biology in the pursuit of a career in medicine and science. My eagerness to work as a researcher pulls me toward a neurobiology laboratory to explore the world of neurons. So, I want myself to be lost in the deep and vigorous study of the human body, specifically the brain and spinal cord. I have good experience working in a laboratory as an independent researcher and so I am looking for a faculty position that will boost me to improve the behavioral and pathophysiological advancement in several neurodegenerative and musculoskeletal diseases of the nervous system as an independent scientist and a teacher.

Scientific Interest

Pain Research, Neuromodulation, Neurophysiology, Electrophysiology, Neurosurgery & Neuroanatomy (Rodents), Medical Biotechnology (Molecular Biology) and Zoology

Academic Disciplines

Diversity of Animals	Immunology & Immunotech	Bioinformatics
Comparative Anatomy of Animals	Molecular Biology	Biostatistics
Physiology: Life Sustaining System	Cell Biology	Instrumentation and Technology
Physiology: Control and Coordination	Biotechnology	Computer application in Biomedicine
Ecology	Biochemistry	NMR and Structural biology
Ethology (Animal Behavior)	Evolution	Human Genetics
Microbiology	Developmental Biology	Bacterial Genetics

Instrumentations and Techniques

Stereotaxy	Tissue Dissociator/Homogenizer	FPLC and HPLC
Cryotomy	Heart Rate Variability (ECG)	MACS
Fluorescence Microscopy	CD spectroscopy	NMR
Morris Water Maze	Flow Cytometry	MRI and fMRI
Transilluminator	Conditioned Pain Modulation	PCR, qPCR and gPCR
Elevated Plus Maze -	Mass Spectrometry	Transcranial Magnetic Stimulation
UV Spectrophotometer	Sonicator	Quantitative Sensory Testing
NeuroNavigation	Electromyography and Feedback	Nociceptive Flexion Reflex

Skills and Expertise

ELISA and Western Blotting	cDNA Synthesis	Corticomotor Excitability
Gel Electrophoresis	Blood collection and Sampling	Electrophysiology
PCR: Real Time PCR and Gradient PCR	PBMC Isolation and PBMC Culture	Yoga Physiology
Primer Designing and Standardization	Collection of Rodents' Brain	Histology: Tissue Section Staining
Protein Quantification	Creating disease model of animals	Brain Surgery: Rodents
RNA & DNA isolation: blood/tissues	Yeast two Hybrid cross	Animal (Rat and Mice) Handling
Gene Cloning	Isolation of silk fiber from cocoon	Brain Stimulation
Other Molecular Biology Techniques	Isolation of hippocampus from rat brain	Immunohistochemistry
Biochemical analysis	Tissue Homogenization	

Computer Skills

Office	Microsoft, Libre
Databases Management Systems	MS Access, MS Excel, SQL
Data Analysis Tool	SPSS
Programming	LINUX
Languages	PERL

Education

Pursuing	PhD Scholar, Department of Physiology, AIIMS Delhi, India (Sponsored by ICMR JRF 2020) Title - 'Effect of yogic intervention on pain and cortical excitability in fibromyalgia patients'
2018	M. Biotechnology AIIMS Delhi, India (1 yr masters dissertation on 'Effect of repetitive magnetic field stimulation on neurogenesis in streptozotocin induced rat model of Alzheimer's disease' from Neurophysiology Lab, Department of Physiology, AIIMS Delhi)
2016	B.Sc. Honors in Zoology from Hansraj College, Delhi University, India
2013	Medical Aspirant; Aakash Institute, Delhi NCR, India
2012	Passed Senior Secondary School (Class XII) with 90.00% from JNVSt, India
2010	Passed Secondary School (Class X) with 93.2% from JNVSt, India

Achievements

2022	Qualified DSEU Assistant Professor Exam (Pharmacy)
2021	AIIMS PhD Entrance (Physiology) Rank - 1
2020	Qualified ICMR JRF
2020	Qualified GATE-XL
2018	Qualified CSIR-UGC-NET Exam, AIR-65
2016	M. Biotech Entrance, AIIMS
2016	Delhi University MSc Zoology Entrance (Got Hindu College in first merit)
2013	Qualified AIPMT 2014
2008	National Science Olympiad: School Rank – 1, District Rank-1, State Rank-30, IR-2098.

Professional Experiences

12 Apr 23 – Till Date	Senior Research Fellow, Department of Physiology, AIIMS Delhi, India 'Effect of yogic intervention on pain status and cortical excitability in fibromyalgia patients (ICMR-JRF)
31 Jul 20 – 11 Apr 23	Junior Research Fellow, Department of Physiology, AIIMS Delhi, India 'Effect of yogic intervention on pain status in fibromyalgia patients (DST & ICMR-JRF)
02 May 20 – 30 Jul 20	Full Time Researcher in Pain Research and TMS Laboratory (With Research Experience)
09 Oct 19 – 01 May 20	Junior Research Fellow, Department of Physiology, AIIMS Delhi, India 'Effect of fMRI neurofeedback-guided motor imagery training on corticomotor excitability and pain status in Rheumatoid Arthritis' (ICMR)
16 May 19 – 16 Sep 19	Junior Research Fellow, Department of Orthopaedics, AIIMS Delhi, India 'Study of osteogenic humoral factors in patients with traumatic brain injury: Decoding the mystery (DST)

Publications

•	Roy A, Kumar A, Kakkadi V, Nag TC, Katyal J, Gupta YK, Jain S. rTMS treatment improved cognitive dysfunction through adult neurogenesis in ICV-STZ rat model of sporadic Alzheimer's disease. Age and Ageing. Volume 52, Issue Suppl_1, Jan 2023, afac322.037. https://doi.org/10.1093/ageing/afac322.037 .
•	Akhtar N, Kumar A, Mattoo B, Deepak KK, Bhatia R. Introducing virtual classrooms for undergraduate physiology teaching during the COVID-19 pandemic: acceptance by students and subjective impact on learning. Adv Physiol Educ. 2023 Sep 1;47(3):376-382. https://doi.org/10.1152/advan.00252.2022 . Epub 2023 May 18. PMID: 37199736.
•	Kumar A, Kumar U, Bhatia R. Advancement in non pharmacological treatment strategies for the management of fibromyalgia syndrome. Int J of Sci Res. Volume 12, Issue 6, Jun 2023 Page 5-8. https://rb.gy/zaupd
•	Akhtar N, Kumar A, Bhatia R. Reply to Surapneni - A strategic approach to promote active learning of the concepts of physiology in small groups. Adv Physiol Educ. 2023 Dec 1;47(4):749-750. https://doi.org/10.1152/advan.00150.2023
•	Kumar A, Yadav R, Venkataraman S, Kumar U, Singh A, Deepak KK, Bhatia R. Exploring pain status and flexibility in fibromyalgia: Effect of 20 sessions of yoga therapy. Indian J Physiol Pharmacol. 2023;67(4):262-269. doi :10.25259/IJPP_297_2023
•	Dwivedi A, Kumar A, Bhatia R. Decoding physiology of inhibitory neurotransmitters in pain of labour. Indian Obstetrics and Gynaecology. Volume 13 Issue 3, November 2023 Page 30-35. https://iog.org.in/index.php/iog/article/view/911
•	Tiwari VK, Kumar A, Nanda S, Chaudhary S, Sharma R, Kumar U, Kumar SS, Bhatia R. Effect of neuronavigated repetitive Transcranial Magnetic Stimulation on pain, cognition and cortical excitability in fibromyalgia syndrome. Neurol Sci. 2024 Jul;45(7):3421-3433. doi: 10.1007/s10072-024-07317-x.
•	Kumar A, Sharma G, Venkataraman S, Kumar U, Bhatia R. Comprehensive Analysis of Demographic and clinical characteristics of fibromyalgia patients in the Indian population. National Medical Journal of India. 2024 (In Press).

• Kumar A, Kumar U, Singh A, Bhatia R. Do Pressure pain threshold encode hyperalgesia or antinociception in fibromyalgia patients? <i>Journal of Rheumatic Disease</i> . 2024; 31(3). https://doi.org/10.4078/jrd.2024.0002
• Kataria M, Gupta N, Kumar A, Bhoniwal S, Singh A, Shekhar V, Bhatia R. Enhancing Pain Relief, Quality of Life, and Thermal Sensitivity using Repetitive Transcranial Magnetic Stimulation in Post-Mastectomy Pain Syndrome. <i>Breast Cancer</i> . Sep 2023.
• Kumar A, Singh A, Kumar U, Yadav RK, Bhatia R. A case series of fibromyalgia spouses benefitted by medical yoga therapy: Effect on pain profile and cortical excitability. <i>International Journal of Yoga</i> . 2024 (In Press)
• Kumar A, Roy A. Culprits of neurodegeneration in Alzheimer's disease: Bench to bedside impression. <i>Hippocampus - Functions, Disorders, and Therapeutic Interventions</i> , London. 2024 (Accepted for publication)

Abstracts	
• Kumar A, Singh A, Yadav R, Venkataraman S, Kumar U, Deepak KK, Dada R, Bhatia R. Neuromodulation by medical yoga therapy: Harnessing pain and corticomotor excitability. 16th World Congress of The International Neuromodulation Society. Neuromodulation 2024. (Poster Presentation)	
• Kumar A, Kumar U, Yadav R, Venkataraman S, Singh A, Khan MA, Bhatia R. Attempting symptomatic alleviation by sensorimotor improvement through medical yoga therapy in fibromyalgia. Asia-Pacific League of Rheumatologists Conference, Suntec, Singapore (APLAR). August 2024. (Oral Presentation)	
• Kumar A, Sharma G, Singh A, Yadav RK, Kumar U, Venkataraman S, Khan MA, Dada R, Deepak KK, Bhatia R. Role of Medical Yoga Therapy on Sensory and Motor Functions in Fibromyalgia. TNS Congress 2023. (Oral Presentation)	
• Kumar A, Venkataraman S, Kumar U, Yadav R, Bhatia R. Effect of 28-day medical yoga therapy program on pain sensitivity, flexibility and range of motion in fibromyalgia syndrome. 13th International Conference of the European Pain Federation EFIC 2023, Budapest, Hungary. (Poster Viewing)	
• Kumar A, Yadav R, Singh A, Venkataraman S, Kumar U, Deepak KK, Bhatia R. Effect Of 28-Day Yoga Program On Pain Sensitivity And Flexibility In Fibromyalgia Syndrome. APPICON 2022, Chandigarh, India (Oral Presentation)	
• Kumar A, Venkataraman S, Kumar U, Yadav R, Singh A, Dada R, Khan MA, Deepak KK, Bhatia R. Effect of 4-week medical yoga therapy on pain sensitivity, flexibility and range of motion in fibromyalgia patients. International Day of Yoga 2022, New Delhi, India. (Poster Presentation)	

Conferences/Congresses	
26th Asia-Pacific League of Association of Rheumatology Congress, APLAR 2024	APLAR, Singapore Chapter
16th World Congress of the International Neuromodulation Society, INS 2024	INS, Canada Chapter
25th Asia-Pacific League of Association of Rheumatology Congress, APLAR 2023	APLAR, Thailand Chapter
3rd Congress of The Neuromodulation Society, TNS Congress 2023	AIIMS Delhi, India
Medicine and Meditation, August 2023	Heartfulness Institute & AIIMS Delhi, India
National Annual Conference 2023: CRISPR and the Clinic - So Near and Yet So Far	National Academy of Medical Sciences, Delhi, India
International Association of Physical Medicine and Rehabilitation Conference (LAPMRCON) 2022	Department of PMR, AIIMS Delhi, India
68th Association of Physiologists and Pharmacologists Conference (APPICON) 2022	PGIMER and GMC, Chandigarh, India
8th International Conference of Physical Therapy (INCPT) 2019	AIIMS Delhi, India
Society of Young Scientists Conference (SYSCON) 2018	AIIMS Delhi, India
Regional Science Congress (Kolkata Chapter: One Week) 2010	Navodaya Vidyalaya Samiti, HRD

Speakers of Symposia/Seminars		
Master's Seminar 1 May 2017	Cell Separations Techniques (Moderator - Dr. Nidhi Batra, Asst. Professor, Biotechnology, AIIMS)	Biotechnology, AIIMS Delhi
Master's Seminar 2 December 2017	CAR-T Cell Therapy in Health Science (Moderator - Dr. Rupesh Srivastava, Asst. Professor, Biotechnology, AIIMS)	Biotechnology, AIIMS Delhi
Master's Seminar 3 March 2018	Gene editing with CRISPR Cas-9 (Moderator - Dr. Bhupendra Verma, Asst. Professor, Biotechnology, AIIMS)	Biotechnology, AIIMS Delhi
TIPS Advanced December 2020	Pain Assessment in Humans and Animals	SAARC Nation Workshop

Journal Club 1 April 2022	In vivo evidence for the cellular basis of central hypoventilation of Rett syndrome and pharmacological correction in the rat model. (Moderator - Dr. Geetanjali Bade, Associate Professor, Physiology, AIIMS)	Physiology, AIIMS Delhi
Journal Club 2 November 2022	Macula Densa SGLT1-NOS1-Tubuloglomerular Feedback Pathway, a New Mechanism for Glomerular Hyperfiltration during Hyperglycemia. (Moderator - Dr. Nasreen Akhtar, Associate Professor, Physiology, AIIMS)	Physiology, AIIMS Delhi
IAPMRCON March 2022	Transcranial Magnetic Stimulation (Time Credit: 90 Minutes)	PMR, AIIMS Delhi
TIPS January 2023	Assessment of Sensory and Motor Functions in Humans using TMS, QST	SEAR Nation Workshop
Journal Club 3 September 2023	Augmenting hippocampal-prefrontal neuronal synchrony during sleep enhances memory consolidation in humans. (Moderator - Dr. Simran Kaur, Additional Professor, Physiology, AIIMS)	Physiology, AIIMS Delhi
TNS Congress 2023	Impact of yogic intervention on health outcomes of fibromyalgia patients (Symposium)	

Workshops, Seminars and Symposia		
Apr 2024	Capacity Building of Hospital Infection Control to detect and prevent antimicrobial resistance in India organized by Centre for Disease Control and Prevention	
Feb 2024	National Seminar on Synthesis of Science and Spirituality for the Welfare of Society organized by Aurovalley Ashram and Sardar Patel University, Raiwala, Rishikesh, Uttarakhand, India (Seminar)	
Mar 2023	International Spine Deformity Course 2023 organized by Department of Orthopaedics, AIIMS Delhi, India (Workshop)	
Dec 2022	TMS in Pain and Disability; Empathy Training and Humanizing Healthcare organized by Association of Physiologists and Pharmacologists of India in Chandigarh, India (Workshop)	
Sep 2022	360 Degree View of the Latest Technologies in Genomics organized in AIIMS Delhi, India (Workshop)	
Sep 2022	Yog and Naturopathy for Holistic Health organized by International Naturopathy Organization (Seminar)	
May 2022	Symposium cum Workshop on Naturopathy and Yoga organized by International Naturopathy Organization (INO)	
Mar 2022	Popular Scientific Writing and Journalism organized by Department of Science and Technology (Symposium)	
Jul 2019	OVID DAY WORKSHOP ON SCHOLARLY COMMUNICATION organized by B.B. Dixit Library, AIIMS Delhi, India	
Jan 2019	Indo-European Workshop on Next Generation Physiology for Healthy Lifestyle organized by Department of Physiology, AIIMS Delhi, India	
Dec 2019, 2022	Techniques in Instrumentation and Physiological Sciences (TIPS) organized by Department of Physiology, AIIMS Delhi, India (SAARC Nations' Workshop)	
Apr 2018	Pain and Somatosensory Assessments in Humans organized by Department of Physiology, AIIMS Delhi, India (Workshop)	
Mar 2016	'Biotechnology Techniques' organized by CODON India Pvt. Ltd. under DBT Star College Scheme; Department of Zoology, Hansraj College, Delhi, India (Workshop)	

Awards and Honors	
2024	Asia-Pacific League of Association of Rheumatologist Travel Award, Singapore
2024	ICMR Travel Award
2024	SERB ITG to attend 16th World Congress of INS, Vancouver, Canada
2024	CSIR Foreign Travel Award
2022	First Runner-up in And Action: SYS Got Talent, AIIMS Delhi, India
2022, 2023	Certificate of participation in Masterchef Competition in AIIMS Delhi, India
2021	Certificate of participation in RECITATION in MERAKI Cultural Fest of AIIMS Delhi, India
2020, 2021	1 st Prize Winner in Solo Song Competition in AIIMS Delhi, India
2019	Certificate of participation in NAVRANG: Institute Day Cultural Program AIIMS Delhi
2019	1 st Prize Winner in Scientific Quiz in AIIMS Delhi
2014	Certificate of participation in Equathon (VSO)
2011	Represented my school with a designation of School Captain (2010-2011 Batch).
2009	Qualified ' Bhartiya Sanskriti Gyan Pareeksha ' with an honor of 'Excellence in Academics'

Additional Disciplines	
Business, Entrepreneurship and Management	Economic Botany and Plant Biotechnology
Information Technology	Science and Life

Building Mathematical Ability	Computer Application in Biomedicine
-------------------------------	-------------------------------------

My Field Projects and Scientific Tours	
•	Visit to Yamuna Biodiversity Park, Delhi, India : Explored flora and fauna, strategies for wildlife protection (2015)
•	Visit to Durgapur Steel Plant (SAIL), W.B. India : Blast furnace temperature ranging 1000-1200 K, Robots used in harsh conditions and huge pipelines through which lacs liters of molten metal can pass. (2010)
•	School trip to Science City, Kolkata, W.B. India : Explored scientific world full of fun and learning. (2010)

Personal Details							
Sex	D.O.B.	Marital Status	Religion	Country of Birth	Citizenship	Languages	Personal Hobbies
Male	21 Sep 1995	Single	Hindu	India	Indian	English Hindi	Singing, Cooking, Acting, Teaching, Writing, Movies, etc.

Publications (Submitted/Under Review/Under Process)	
•	Kumar A, Roy A. Comprehensive review on culprits of neurodegeneration in Alzheimer's disease: Bench to bedside impression. <i>Saudi Journal of Medicine and Medical Science</i> . (Submitted)
•	Kumar A, Roy A, Karaddi V, Katal J, Nag TC, Jain S. Repetitive magnetic field stimulation (17.96 μ T, 50 Hz) partially ameliorates behavioral deficit by facilitating neurogenesis and attenuating oxidative stress in the hippocampus and entorhinal cortex of streptozotocin rat model of Alzheimer's disease. (Under Process of Submission)
•	Kumar A, Yadav RK, Kumar U, Venkataraman S, Singh A, Khan MA, Deepak KK, Dada R, Bhatia R. Neuromodulation by medical yoga therapy: Harnessing pain relief and corticomotor functions in fibromyalgia patients. <i>Neuromodulation</i> . 2024. (Submitted)

Abstracts (Accepted)	
•	Kumar A, Kumar U, Yadav R, Venkataraman S, Singh A, Khan MA, Bhatia R. Attempting symptomatic attenuation by sensorimotor improvement after medical yoga therapy in fibromyalgia. <i>Japan College of Rheumatology (JCR) Conference 2023</i> .
•	Kumar A, Venkataraman S, Kumar U, Yadav R, Bhatia R. Effect of 28-day medical yoga therapy program on pain sensitivity, flexibility and range of motion in fibromyalgia syndrome. <i>Controversies on Rheumatology and Autoimmune Diseases 2023, Turin, Italy. (Poster Viewing)</i>

Co-authored Abstracts	
•	Vats D, Kumar A , Fatima S, Sagar S, Yadav RK, Khan MA, Bhatia R, Singh A. Effect of Repetitive Transcranial Magnetic Stimulation of Dorsolateral Prefrontal Cortex on pain status in Phantom Limb Pain. <i>TNS Congress 2023. (Oral Presentation) First prize winner in oral category</i>
•	Kataria M, Kumar A , Singh A, Shekhar V, Gupta N, Bhatia R. Enhancing Pain Relief via Repetitive Transcranial Magnetic Stimulation in Post-Mastectomy Pain Syndrome. <i>TNS Congress 2023 (Poster Presentation)</i>
•	Sharma G, Kumar A , Singh A, Yadav RK, Kumar U, Deepak KK, Bhatia R. Effect of 6 weeks of Medical Yoga Therapy on sensory perception and Offset Analgesia in Fibromyalgia patients. <i>TNS Congress 2023 (Oral Presentation)</i>
•	Dwivedi A, Kumar A , Singh Y, Bhatia R. A study of pain inhibitory neurotransmitters in CSF of women undergoing cesarean section. <i>TNS Congress 2023 (Poster Presentation) Second prize winner in poster category</i>
•	Vats D, Bhatia R, Fatima S, Kumar A , Yadav RK, Sagar S, Mir N, Khan MA, Singh A. Pain relief with Repetitive Transcranial Magnetic Stimulation in Phantom Limb Pain. <i>3rd Research Day AIIMS 2024.</i>