

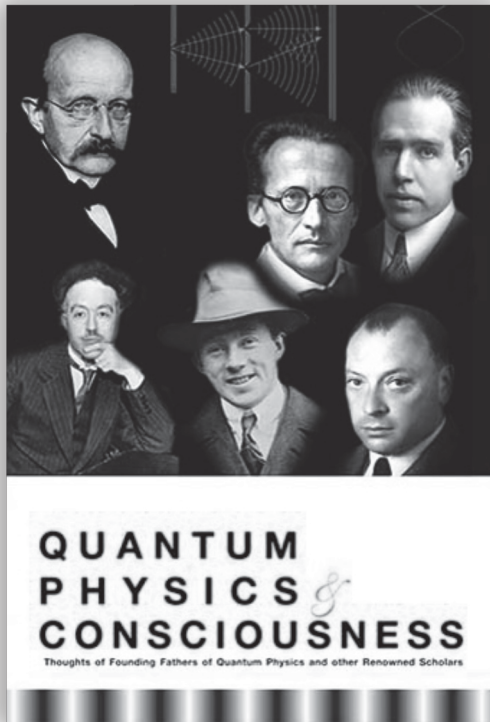
**Handbook**



**Symposium on**  
**BRAIN, MIND &  
CONSCIOUSNESS**

**22 March 2025 | AIIMS Kalyani**

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— Francis Crick  
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Symposium on  
**BRAIN, MIND &  
CONSCIOUSNESS**

**March 22, 2025  
AIIMS Kalyani**

Organized by



**Bhaktivedanta Institute  
Kolkata**

In Collaboration with



**AIIMS Kalyani**

Dedicated to

**Dr. T. D. Singh**

(His Holiness Bhaktisvarupa Damodara Swami)

(1937-2006)

*Scientist and Saint*

Founder Director, Bhaktivedanta Institute and  
Founder President, Vedanta and Science Educational  
Research Foundation



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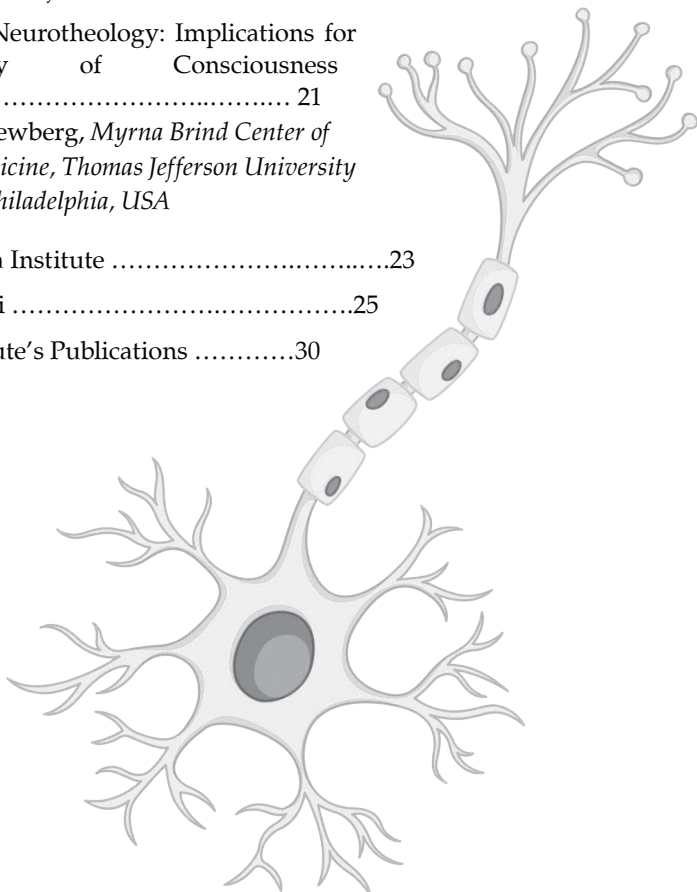
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# Welcome Address

Dear Distinguished Speakers, Delegates, Faculties, Students and Guests,



The greatest problems for science to solve in the 21<sup>st</sup> century is to ascertain if brain, mind and consciousness are different or not. For many centuries, the problem existed in philosophy as ‘mind-body problem.’ However, with our increased ability to probe the nature, the problem has become central to science.

For long, science functioned as if they were the same. However, with the advent of quantum physics and neuroscience, there are strong endeavors and opinions in both directions and it is good for both science and humanity. Quantum physics is indicating that there could be mind-like entities in the reality. Our endeavor to reduce origin of life problem to purely biochemistry has met too many dead ends indicating that there could be more to a living cell than the biochemistry as many renowned scholars such as Prof. Werner Arber, a Nobel Laureate in Medicine and father of biotechnology expressed. Some traditional techniques, that assume mind and body are different, like yoga and meditation that offer relief for stress, anxiety and depression have physiological effects similar to that of some neuroactive medications.

Similarly, rapidly advancing consciousness research is keeping the mind-body-consciousness debate alive but with an interesting change in approach by bringing together not only different disciplines of science but also traditional knowledge systems, especially Indian knowledge systems. In this context, this symposium, Brain, Mind & Consciousness jointly organized by the AIIMS Kalyani and the Bhaktivedanta Institute is a great step forward in democratizing science for the welfare of humanity. For this reason, I am most pleased to welcome you all to this one-day symposium on ‘Brain, Mind and Consciousness being organized at the AIIMS Kalyani.

My sincere gratitude to the Director and the administration of AIIMS Kalyani for collaborating with the Bhaktivedanta Institute in organizing this symposium. My sincere

gratitude is also to Padma Shri Dr. B. N. Gangadhar, Chairman, National Medical Commission, New Delhi for accepting to be the Chief-Guest and distinguished speaker for the symposium. I welcome all of you with my brain, with my mind and with my full heart.

**Shri K. Vasudeva Rao**

*(Alumnus, IIT Kanpur)*

President, Bhaktivedanta Institute



# About the Symposium

Brain is one of the most fascinating objects we all carry and use every minute. A typical brain contains around 100 billion cells—almost as numerous as the stars in the Milky Way galaxy. Its intricate and complex workings and relationship with our thoughts and our private inner world of reflection, perception, contemplation, and above all, with our subjective conscious experiences, are areas of research at the forefront today.

What are thoughts which we have every second? Is the mind different from the brain? Do we have free will? Are our conscious experiences a product of neurons or they belong to our spiritual dimension? Can we reexplore the age-old question of ‘who I am?’ in the present day framework of neuroscientific developments? What is self-awareness and where does its roots lie?? How do we reconcile neuroscience, psychology and spiritual wisdom? Can developments and challenges in the last 100 years of quantum physics indicate answers to some of the fundamental issues in neuroscience today? How to handle binding problem and hard problem of consciousness?

How to take care of a whole person, his/her 360° healthcare - physical, mental, emotional and spiritual? What is the impact of spirituality and integrative medicine on mental well-being? What role does spirituality and ancient Indian Knowledge systems practices such as yoga, meditation, prayers and alternative medicines play in healthcare today? Can they help reduce the effects of serious illnesses such as cancer or neurological disorders?

The present symposium aims to explore these and many such questions by re-examining the intricate relationship between the brain, mind, and consciousness through an interdisciplinary lens, bringing together neuroscientists, psychologists, philosophers, quantum physicists, basic sciences researchers and spiritual scholars.

— Organizers  
BMC Symposium - 2025



## *Message from the Vice Chancellor* **MAKAUT, W.B.**

It is with great pleasure that I extend my best wishes to the organizers, speakers, and participants of the symposium on "Brain, Mind & Consciousness," jointly organized by the Bhaktivedanta Institute and AIIMS Kalyani. This symposium brings together the realms of neuroscience, philosophy, and spirituality to explore one of the most profound questions of human existence—the nature of consciousness.



Scientific advancements in brain research have provided deep insights into neural mechanisms, cognition, and behaviour. However, the exploration of consciousness extends beyond the physical domain, touching upon philosophical, psychological, and spiritual dimensions. The interdisciplinary nature of this symposium creates a unique platform for scholars, researchers, and practitioners to engage in meaningful discourse and bridge the gap between empirical science and metaphysical inquiry.

I commend the efforts of the Bhaktivedanta Institute and AIIMS Kalyani for fostering this collaboration, which will undoubtedly inspire new perspectives and deepen our understanding of the mind and consciousness. May this event serve as a catalyst for further research and dialogue in this fascinating field.

Wishing you all a fruitful and enlightening symposium.

**Prof. Tapas Chakraborty**

Vice Chancellor,  
MAKAUT, W.B.

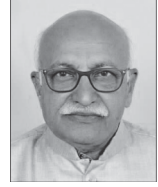




## *Message from the Executive Director AIIMS Kalyani*

Dear Distinguished Guests, Esteemed Speakers, and Participants,

It is my distinct honour to welcome you to the Symposium on Brain, Mind & Consciousness, hosted at AIIMS Kalyani on March 22, 2025. This remarkable collaborative effort between Bhaktivedanta Institute Kolkata and AIIMS Kalyani represents a milestone in our ongoing pursuit of understanding the profound connections between neuroscience and consciousness.



As we gather in Yamuna Hall, AIIMS Kalyani, we stand at the intersection of science and philosophy, ready to explore topics ranging from neuroscience and the search for self to the fascinating connections between brain plasticity and spiritual practices. The diverse expertise of our speakers promises rich, interdisciplinary discussions that will challenge and expand our understanding.

This symposium offers not only intellectual stimulation through expert talks and cutting-edge research but also creates a space for meaningful dialogue across disciplines. Whether you are a seasoned researcher, a practicing clinician, or a curious student, I encourage you to engage fully with the presentations, participate in discussions, and forge connections that may lead to future collaborations.

On behalf of AIIMS Kalyani, I extend my gratitude to the Bhaktivedanta Institute for their visionary partnership in organizing this event. I hope this symposium inspires new perspectives and approaches in your respective fields.

Wishing you all a thought-provoking and enlightening experience.

Sincerely,

**Prof. (Dr.) Ramji Singh**

Executive Director  
AIIMS Kalyani



# Abstracts & Bio-datas of Speakers

## Session 1: Inaugural Session

## Session 2: Brain, Mind & Consciousness - An Overview

### 2.1. Brain & Mind – Exploring the Foundations of Science and Medical Challenges

Shri Varun Agarwal (*Alumnus, IIT Kanpur*), *Director, Bhaktivedanta Institute, Kolkata*

What is mind? Is it different from brain or just an epiphenomenon of brain? If it is different, how they interact and which came first? In other words, is brain a product of thought or thoughts are product of brain? These questions have perplexed scholars from all times and they all lie at the heart of science and spirituality interface. Interestingly, the challenges faced in the foundations of quantum physics in the last century as well as various recent developments and challenges faced in neuroscience can help us to explore these perennial questions and provide some hints. Gathering insights from the foundations of quantum physics as well as renowned neuroscientists, the author will attempt to present a brief overview of the subject and explore some of these intriguing questions. An attempt will also be made to have a glimpse from ancient Vedantic wisdom about these thought-provoking questions of mind and consciousness.

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Varun Agarwal (also known as His Holiness Bhaktisvarupa Vrajendrakumar Swami) graduated from the prestigious Indian Institute of Technology Kanpur (IIT Kanpur), India obtaining his B.Tech in Aerospace Engineering (1999). He worked on a project of

solar-powered aircraft and was ranked first in his entire department. However, his longing for something deeper about life which always bothered him finally culminated in meeting the illustrious scientist-saint Dr. T. D. Singh (His Holiness Bhaktisvarupa Damodara Swami), the Founder Director of the Bhaktivedanta Institute.

Under his guidance, he began studying ancient Vedantic wisdom, dedicating himself completely for the cause of helping humanity through the interface of scientific temper and spiritual wisdom. He is currently serving as the Director of the Bhaktivedanta Institute, Kolkata, India. Besides his various involvements, he frequently travels across India & abroad and interacts with scientists and scholars all over the world including world-renowned universities of Harvard, Princeton, ETH and Stanford to MIT. He is also the Editor of Bhaktivedanta Institute's reputed science and spirituality journal, Savijnanam.

## **2.2. Neuroplasticity, Mind and Divine**

Prof. Sukanto Sarkar, *HOD, Department of Psychiatry, AIIMS Kalyani*

Neuroplasticity is the brain's ability to rewire itself by constantly adapting to the environment and experiences. For effective neuroplasticity to occur, the brain must be stimulated to newer experiences and environment also known as "Enriched Environment." These experiences can be linked to our mental state and spiritual engagement, thus allowing individuals to cultivate a deeper connection with the divine consciousness through the practice of meditation, mindfulness, positive affirmation, and religious practices, leading to a more spiritual outlook of life. This will create rewiring of the neural pathways, increased dendritic connections, enhance neural cross-talks thus stimulating the neuroplastic changes of the brain. Thus, by consciously focusing on cultivating a connection with the divine, individual can elevate one's mental state which can potentially trigger neuroplastic changes in the brain. Neuroplastic changes plays a critical role in enhancement of cognitive abilities, delaying age related cognitive decline and increase ability to adapt and recover from

physical and mental trauma of the brain. The divine connections of the mind through spiritual and religious practices will stimulate the higher consciousness thus bring about neuroplastic changes in the brain.

---

Dr. Sukanto Sarkar is an experienced mental health professional specializing in psychiatry, with over 14 years of expertise in severe psychiatric disorders, schizophrenia, neuropsychiatry, and sleep disorders. He holds an MBBS degree from Kolkata, a DPM and MD in Psychiatry from the Central Institute of Psychiatry (CIP), Ranchi, and a PG Diploma in Health Professional Education from SBV, Pondicherry. Currently serving as Additional Professor and Head of the Department of Psychiatry at AIIMS, Kalyani, he has made significant contributions to the field, including introducing advanced brain stimulation services such as ECT, rTMS, and Ketamine Therapy. Dr. Sarkar has actively engaged in clinical research, published extensively in national and international journals, and is a recognized examiner for MD and DPM final exams across India. His leadership extends to roles such as Vice-President of the Faculty Association at AIIMS, Kalyani, and a reviewer for multiple prestigious psychiatric journals.

Dr. Sarkar has been instrumental in several funded research projects, including the National Mental Health Survey and studies on schizophrenia, cognitive deficits in long COVID patients, and gambling disorders. He has received numerous accolades, including the Leelabati Bholanath Award and multiple best research paper and poster awards. Additionally, he has served as an organizing secretary and chairperson for various national and international conferences, highlighting his contributions to medical education and professional psychiatry. His affiliations include fellowships and memberships in the Indian Psychiatric Society and the Indian Association for Geriatric Mental Health. With a strong academic background, numerous publications, and ongoing research initiatives, Dr. Sarkar continues to be a leading figure in psychiatric research and clinical advancements in India.

## Session 3: Brain-Mind Relationship: Perspectives from Indian Knowledge Systems

### 3.1. Yoga as a Spiritual Practice in Clinical Practice

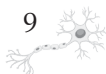
Padma Shri Dr. B. N. Gangadhar, *Chairman, National Medical Commission, New Delhi*

We are all inherently Divine. Not all of us, realise the strength of divinity. This strength offers immunity to the wear and tear stresses. It also promotes a sense of well-being. Transcending to realise this Divinity in us calls for proactive role from each one of us. The role includes practice of a spiritual lifestyle. The time-tested lifestyle is Yoga. Yoga helps us to harness the inner divine strength. The effects of such harnessing translate a person to be a socially proactive one. In turn, this progresses into creating a healthy and cohesive society.

In clinical practice, Yoga has been put to use to reduce disease burden in the individual and facilitate well-being. The role of Yoga in mental disorders is well established. Extensive research has confirmed its potential as therapy in different psychiatric disorders. Yoga not only offers clinical improvement, but also brings in changes in the biology. Such biological correlates of yoga therapy have further validated the role of Yoga in the treatment of psychiatric disorders. There is a need to integrate yoga in mainstream clinical services. The application of yoga in psychiatric disorders deserves to be monetised through insurance mechanism. All stakeholders should work towards this end so that the treatment is reachable to each individual.

---

B. N. Gangadhar is currently the Chairperson of National Medical Commission, New Delhi. He served as the Director and Professor of Psychiatry at the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore. He completed his MBBS in



1978 (Bangalore Medical College), MD Psychiatry in 1981 (NIMHANS), DSc (Doctor of Science) from SVYASA University for research work of Yoga and Mental Health in 2012. He has served as Honorary Dean, Life Sciences at SVYASA Yoga University, Bangalore (from 2013), Adjunct faculty on Consciousness at National Institute of Advanced Studies (from 2014); President of the Indian Psychiatric Society, Karnataka Chapter (2012–13); Visiting Fellow (IBRO), Vienna, Austria (1987–88); Consultant to WHO for inspection of Tsunami relief projects 2008. He was also on the expert committees of DST and on the national AYUSH committee for integrative medicine. He is the recipient of the coveted Sir CV Raman Award and Doctors Day Award from the Government of Karnataka. He has also shared over 25 awards with other primary recipients. B. N. Gangadhar was elected Fellow in 2019.

Dr. Gangadhar was responsible for initiating yoga services for clinical application in mental health and neurosciences. He has conducted original research in yoga therapy in several psychiatric disorders, the results of which have influenced some of the practice guidelines. Notable among these is the role of yoga in depression and schizophrenia. Dr. Gangadhar has published more than 450 publications.

### **3.2. Science of Mind for Mental Being: A Vedantic Approach**

Shri K. Vasudeva Rao (*Alumnus, IIT Kanpur*) *President, Bhaktivedanta Institute*

It is time to take mental wellness seriously which is affecting all sections of society including the youth. Neuroscience has made significant progress in understanding the role of brain and develop medicines to help various mental conditions. In order to make them fully effective, we need to augment them with the traditional techniques of yoga and meditation that offer similar relief in some conditions like stress, anxiety and depression. Ancient Indian

traditions, especially Vedanta, have excellent models of consciousness and life. They have identified fundamental categories of mental processes, namely mental, intellectual, emotional, and identity. We need to use thought experiments to understand the mind. The mental processes stated above can be observed while one plays a computer simulated game. In this talk, we will present an ancient Indian model of consciousness using the example of a computer game. We will attempt to explain the concepts of consciousness (Chetana), mind (manah), intelligence (buddhi), identity (ahankara) and their interconnected role in sustaining life in this universe. Since mind is not an isolated entity according to Vedanta, we need to understand, what mind is, how it operates and how to tune it in relation to the other connected processes. Such an understanding can help us in our research to improve mental wellbeing, in exploring the depths of our mind and its implications for personal growth and societal change, and would bring a meaning and purpose to our life in this vast cosmos.

---

Vasudeva Rao (also known as His Holiness Bhaktisvarupa Vrajapati Swami) obtained his M.Tech. (Computer Science, 1998) from IIT Kanpur, India. After a brief tenure of working as a software professional, he decided to significantly contribute himself to the science spirituality interface under the able leadership and vision of Dr. T. D. Singh, the Founder Director of the Bhaktivedanta Institute.

Presently, His Holiness is the President of Bhaktivedanta Institute and actively promotes discussion on science and spirituality. He is also the Editor of Bhaktivedanta Institute's reputed annual journal, Savijnanam – Scientific Exploration for a Spiritual Paradigm and travels widely across India and abroad. His deep interest in the foundations of mathematics, fundamentals of computer science and logic and its relation to nature of reality as well as ancient Indian texts led him to interact and meet renowned scholars at Harvard, Princeton, ETH, Stanford, and MIT. He has delivered several talks on topics at the interface of science and spirituality.

## Session 4: Neurons, Thoughts & “I”

### 4.1. Can the Mind Relax, Consciously?

Dr. Madhavan C., *Department of Physiology, AIIMS Kalyani*

The human mind is constantly engaged in processing sensory input and coordinating thoughts and actions, rarely getting a chance to fully relax. However, research suggests that specific musical stimuli, such as the Indian classical raga Bhimpalasi, may induce a state of conscious relaxation in the brain. A recent randomized controlled trial investigated the effects of listening to Bhimpalasi on EEG power spectra in 72 healthy adults. Participants were divided into a control group (silence) and an intervention group (listening to Bhimpalasi).

EEG data was recorded before, during, and after the 10-minute music intervention. Power spectral analysis examined changes in delta, theta, alpha, beta, and gamma frequency bands. While overall changes in delta and alpha power were not statistically significant between groups, the intervention group exhibited localized increases in alpha power at electrodes corresponding to the temporal and occipital lobes. This effect persisted for up to 5 minutes post-stimulus, suggesting that specific musical stimuli can modulate brain activity, promoting a state of relaxation and focused attention. These findings support the hypothesis that certain ragas can induce conscious relaxation and have implications for the development of music-based interventions for stress reduction and mental well-being. Further research should explore the long-term effects and therapeutic potential of raga-based music interventions.

Ref: Short term student Project of Ritesh Pandey MBBS 2021-22 Batch AIIMS Kalyani approved by ICMR conducted in Department of Physiology under the supervision of Dr. Madhavan C Associate Professor Physiology.





Dr. Madhavan C is an Associate Professor of Physiology at AIIMS Kalyani. He has 10 years of experience in the field of Medical Education, teaching Medical Physiology to the Undergraduate and Post Graduate Medical students. In addition to his medical background, Dr. Madhavan is also a certified yoga therapist, holding an M.Sc. in Yoga Therapy. This combination allows him to approach research and patient care from a holistic perspective, integrating traditional medical science with the mind-body practices of yoga.

As the in-charge of the diagnostic EEG lab in the Department of Physiology. His lab actively provides diagnostic EEG services for various clinical Departments in the Institute along with the many diagnostic services provided by the Department of Physiology.

Dr. Madhavan's research interests reflect his multidisciplinary background. He has published original research papers exploring the effects of pranayama, a yogic breathing technique, on cardiovascular autonomic parameters. His ongoing research projects investigate the potential of yoga in managing somatoform disorders and in reducing stress among parents of children with autism. By scientifically evaluating the impact of yogic practices on physical and mental health, Dr. Madhavan aims to bridge the gap between traditional wisdom and modern medicine.

Recently, Dr. Madhavan and his team have expanded their research focus to include the effects of music on brain waves as measured by EEG. This innovative line of inquiry seeks to explore the potential of music as a non-pharmacological intervention in mind-body medicine.

## **4.2. The Brain's Alchemy? Binding thought, Memory & Logical Atomism**

Mr. Sushant Sharma (*Alumnus, IIT Guwahati*), *Director of Cognitive Sciences and Performing Arts, Bhaktivedanta Institute*

Thought, memory, and logical reasoning are deeply interwoven, yet their true nature and origins remain open to inquiry. While neuroscience often attributes these cognitive functions to brain activity, a closer examination challenges the assumption that they arise solely from physical processes. The relationship between thought, memory, and logical atomism suggests a structured, possibly non-material foundation underlying cognition. By questioning the limits of reductionist explanations and exploring the parallels between logical structures and conscious experience, this discussion considers whether the brain merely facilitates thought or if consciousness itself transcends physical constraints.

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Sushant Sharma is currently working as a software professional at Nevaeh Technologies. He obtained B.Tech in Computer Science and Engineering from IIT Guwahati. He has a rich experience of over 15 years as an IT Professional, working with well known organizations such as CATS-pvt Ltd, TCS, Techmahindra and Roamware.

After his meeting with Dr. T. D. Singh in 2000, he developed a keen interest in the domain of synthesis of science and spirituality. Under the mentorship of Dr. Singh and his students, Sushant has been exploring the studies at the interface of foundations of computer science, mathematics and consciousness, and consequently has been delivering many talks in various conferences, seminars and workshops organized by Bhaktivedanta Institute. His study interests include foundations of set theory and computer science, Godel's incompleteness theorems and Vedanta. Besides he is serving as the Director of Cognitive Studies and Fine arts at Bhaktivedanta Institute.

### **4.3. Privacy of Conscious Experience: A Quantum Information Approach**

Dr. Roshan Tiwari, (*Alumnus IISER Kolkata*) *Research Scientist, Bhaktivedanta Institute, Kolkata*

The observation of the natural world generates unique conscious experiences in living beings, characterized by their inherently personal, subjective, and first-person nature. These experiences, often referred to as qualia, are fundamentally inaccessible from an objective or third-person perspective, as their qualitative aspects cannot be adequately captured or transmitted through classical bits of information. Emerging research suggests that such experiences may be rooted in quantum information, which, like consciousness, remains intrinsically unobservable and incommunicable. This limitation arises from fundamental principles of quantum information theory, particularly the **No-Cloning Theorem**, which prohibits the perfect duplication of arbitrary quantum states, and **Holevo's Theorem**, which restricts the amount of classical information that can be extracted from quantum systems. In my talk, I will present the argument that conscious experiences are quantum in nature, drawing on these theorems to support the proposed framework.

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Dr. Roshan Tiwari earned his MS & Ph.D. in Physics from the Indian Institute of Science Education and Research (IISER) Kolkata in 2023, following a B.Sc. in Physics from Banaras Hindu University (BHU), Varanasi, in 2014. His doctoral research spanned spectroscopy, bioinspired waveguides, microscopy, sensing, and optical trapping, with his findings published in several prestigious international journals.

Driven by a deep fascination with the quantum nature of reality, Dr. Tiwari is particularly interested in exploring how quantum information theory can enhance our understanding of conscious experiences. He is currently a Research Scientist at the Bhaktivedanta Institute, Kolkata, where he focuses on developing theoretical frameworks to provide deeper insights into the fundamental nature of consciousness. His research is conducted in collaboration with Prof. Arun Pati, a renowned quantum information theorist at TCG CREST, Kolkata.

## Session 5: Holistic Healthcare & Spirituality

### 5.1. A Place for Spirituality and Healing in Medicine

Prof. Harald Walach, *KS University, Vilnius, Lithuania (former Professor and Director, Institute of Transcultural Health Studies, Europa Universität Viadrina)*

Modern medicine has developed along the metaphor introduced by René Descartes in 1644: It is regarding the human organism as a machine. With cellular pathology introduced by the German physician and politician Rudolf Virchow around 1848 this metaphor became the central dogma of medicine about 200 years later. With the insight into the biochemical machinery and genetics in our times this view of man has been codified for good and defines today how we see man and his diseases, as well as the options for therapy. This focus on the material basis of health and disease is deficient and deceptive in various ways. Although it might be helpful in most cases of acute diseases, such as infectious diseases, accidents and life-threatening conditions, it is less than optimal in all chronic conditions, as it neglects the fact that the organism is a self-regulating and autopoietic system which creates both healthy and diseased states.

Here, regulation therapies might be more appropriate, as offered by traditional and complementary therapies, such as homeopathy, Ayurveda or naturopathy. Finally, the purely materialistic outlook of the modern medical stance neglects consciousness and spirituality. Consciousness as a human reality is not derivable from the purely material basis of the brain, and the spiritual nature of man might even demand a deeper analysis. Hence, in many cases, a culture of consciousness, as presented in various spiritual paths might be not only helpful but also necessary for a holistic view of health and disease. In the same vein, a deeper contact with man's spiritual nature could be essential for healing in some cases. I will discuss the

interrelatedness of these different perspectives and options for therapy.

---

Harald Walach, Ph.D., is currently working at the Next Society Institute with Kazimieras Simonavicius University in Vilnius, Lithuania. He was a professor at Poznan University of the Medical Sciences in Poznan, Pediatric Hospital, Poland and a visiting professor at Witten/Herdecke University's Department of Psychology. He is a health researcher with approximately 205 peer-reviewed papers to his name, 113 chapters for books, wrote 16 books, and edited 16 volumes, and broad expertise in various methods of clinical, experimental, and secondary research. His educational journey includes a degree in psychology from the University of Freiburg, Ph.D. in Philosophy and History of Science from the University of Vienna and a Ph.D. in Clinical Psychology from the University of Bale.

He served as the managing director of an adult education center in Bale, Switzerland, from 1985 to 1987. From 1991 to 1998, he worked as a postdoctoral researcher at the Department of Psychology. He was a senior researcher and coordinator of the Freiburg DMILS lab at the Institut für Grenzgebiete der Psychologie from 1998 to 2000. He also served as the Coordinator and Director of the Research Group for the Evaluation of Complementary Medicine at the University Hospital, Freiburg, from 1999 to 2005. Harald's dedication to education led him to become a Professor of Research Methodology in Complementary Medicine and Director of the Institute of Transcultural Health Studies at the Europa Universität Viadrina. He has also held visiting professorships at various institutions, including the Medical Faculty at Universidad Federal Juiz de Fora in Brazil and Georgetown University Medical School's Program for Integrative Medicine. Harald served as the Editor of Complementary Medicine Research and as the Director of the European Office of the Samueli Institute for Information Biology. He served as "Research Professor" in Psychology at the University of Northampton in the UK from 2005 to 2009 and Editor-in-

Chief of Spirituality and Health International. Since 2009, he has been the Editor-in-Chief of the book series Neuroscience, Consciousness, and Spirituality published by Springer.

His interests include: what role consciousness plays in the field of medicine, leading to questions of meditation research and the cultivation of consciousness; what exactly is “healing”? What is the relationship between external empiricism, i.e. scientific experience, and internal experience, i.e. personal, individual experience? In other words, what is the relationship between the individual and the general, the personal and the general? The question of the body-soul problem; the question of how to understand inner experience, whose certain branch is spiritual or mystical experience; the historical contexts and the person of the author; the question whether Brentano’s idea of grounding psychology in the systematic experience of consciousness is possible; Whether it is possible to achieve prevention of dementia through lifestyle change; the value of mindfulness and interventions based on it; placebo effects or the semiotics of therapeutic processes; whether it is conceivable and meaningful to develop a theory of wholeness in which non-local processes have a systematic theoretical place and generalisation of quantum theory in this context.

## **5.2. Meaning, Mindfulness and Spirituality: Core Dimensions for Healing**

*Dr. Wayne Jonas, Professor of Medicine at Georgetown University, USA & Former Director, Office of Alternative Medicine at the National Institutes of Health (NIH), USA*

Ultimately, all human beings want three basic things out of life: first is health, second is well-being/happiness, and third is a sense of meaning and purpose, creating value beyond themselves as individuals. If any of these wants are lacking, people suffer, either through a broken body, a lack of peace, or a sense of emptiness. Over

70 years ago Abraham Maslow wrote about the Hierarchy of Human Needs, which included three domains: physical needs, psychosocial needs, and finally, spiritual needs, which he called self-actualization and in his final model, self-transcendence.

In this talk, I will update these domains showing them as a circle (rather than a hierarchy) and illustrating how through their intersecting synergism, wholeness of a person emerges when meaning and the spiritual domains are placed at the center of care. I will illustrate the practical implications of this view of humanity for health care with a set of tools called the Healing-Oriented Practices and Environments (HOPE) Note Toolkit. At the heart of this approach, is asking the patient “what matters” to them as a person and working with them to identify their deepest response.

Bringing meaning, purpose and spirituality into clinical practice simply means having this discussion about what matters with patients, then listening to them mindfully, and following where the response takes them. This is the process of whole person care for healing.

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Wayne Jonas, M.D., is a board-certified, practicing family physician, an expert in integrative health and whole person care delivery, and a widely published scientific investigator. He is professor of medicine at Georgetown University and at Uniformed Services University of Health Sciences. Additionally, Dr. Jonas is a retired Lieutenant Colonel in the Medical Corps of the United States Army. From 2001-2016, he was President and Chief Executive Officer of Samuelli Institute, a non-profit medical research organization supporting the scientific investigation of healing processes in the areas of stress, pain and resilience.

Dr. Jonas wrote the best-selling book ‘How Healing Works’, laying out a revolutionary new way to approach injury, illness, and wellness. He also co-authored a second book with Alyssa McManamon, M.D.,

'Healing and Cancer: A Guide to Whole Person Cancer Care.' This book is meant to be actively used by teams caring for people with cancer and by caregivers and patients to enhance healing, health, and wellbeing.

Dr. Jonas was the Director of the Office of Alternative Medicine at the National Institutes of Health from 1995-1999, and prior to that served as the Director of the Medical Research Fellowship at the Walter Reed Army Institute of Research. He is a Fellow of the American Academy of Family Physicians.

His research has appeared in peer-reviewed journals such as the Journal of the American Medical Association, Nature Medicine, the Journal of Family Practice, the Annals of Internal Medicine, and The Lancet. Dr. Jonas received the 2015 Pioneer Award from the Integrative Healthcare Symposium, the 2007 America's Top Family Doctors Award, the 2003 Pioneer Award from the American Holistic Medical Association, the 2002 Physician Recognition Award of the American Medical Association, and the 2002 Meritorious Activity Prize from the International Society of Life Information Science in Chiba, Japan.

Dr. Jonas has led and participated in hundreds of research studies beginning with his time as Director of the National Institutes of Health Office of Alternative Medicine. While serving as CEO and President of the non-profit research organization Samueli Institute, his work set the bar for evidence-based research in the areas of pain, stress and human performance. Dr. Jonas currently serves as the President of Healing Works Foundation, a not for profit organization dedicated to the integration of healing and curing in routine health care delivery.

## Session 6: Interactive Session



## Session 7: Neuroscience & Spirituality

### 7.1. Principles of Neurotheology: Implications for the Study of Consciousness

Dr. Andrew Newberg, *Myrna Brind Center of Integrative Medicine, Thomas Jefferson University and Hospital, Philadelphia, USA*

This presentation will review the current approaches towards research and scholarship taken by the field of neurotheology. This field seeks to understand the relationship between the brain and religious/spiritual experiences. Many of these experiences include changes in consciousness such as mystical or trance states. Thus, neurotheology is an appropriate field for understanding how consciousness, the mind, and brain intersect. This presentation also reviews current research and implications of neurotheology for understanding consciousness and the brain.

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Andrew B. Newberg, M.D. is the Research Director at the Marcus Institute of Integrative Health, and a Professor in the Department of Integrative Medicine and Nutritional Sciences, and in the Department of Radiology at Thomas Jefferson University, in Philadelphia, Pennsylvania, USA. His research involves the use of diet and nutrition, supplements and natural products, meditation, acupuncture, and other mind-body interventions for diseases including head injury/concussion, Parkinson's disease, cancer, cardiovascular disease, inflammatory disorders, and irritable bowel disease. Dr. Newberg has published over 200 peer-reviewed articles and chapters on integrative medicine, brain function, brain imaging, and the study of spirituality and health. He has received or participated in a number of NIH grant projects primarily focusing on neuroimaging and the management of psychiatric and neurological problems. He was listed as one of the 30 Most Influential Neuroscientists Alive Today by the Online

Psychology Degree Guide. He is the author of eight books including the national best-selling books, “How God Changes Your Brain” (Ballantine) and, “Why God Won’t Go Away: Brain Science and the Biology of Belief” (Ballantine). Dr. Newberg obtained his M.D. from the University of Pennsylvania, School of Medicine, and did his training in Internal Medicine at the Graduate Hospital in Philadelphia. He completed a Fellowship in Nuclear Medicine in the Division of Nuclear Medicine, Department of Radiology, at the University of Pennsylvania. He is board-certified in internal medicine and nuclear medicine, and is a preeminent neuroscientist who has devoted his life to studying the links among spirituality, contemplative practices, and brain function. He promotes the burgeoning field of Neurotheology and why it is important for clinicians to understand more about this area of medicine and its potential impact on people’s health.



# About Bhaktivedanta Institute



The Bhaktivedanta Institute was founded by His Divine Grace A. C. Bhaktivedānta Swami Prabhupāda in Vrindavan in August 1974. Śrīla Prabhupāda was one of the greatest exponents of Vedic culture in the 20th Century. He strongly felt that modern civilization is completely misdirected by scientific materialism and there is an urgent need to introduce the spiritual knowledge and wisdom of the *Bhagavad-gītā* and the *Śrīmad-bhāgavatam*, the essence of all the Vedic literatures, to the scientists, philosophers, scholars and students of the world. He noticed that all the prestigious academic institutions and universities of the world were teaching many different subjects but they had left out the most important branch of knowledge—the science of the soul. He envisioned that this spiritual knowledge of life would help restore an ethical culture for modern society. Thus, there would be hope for bringing lasting happiness and world peace. He felt that introducing this spiritual culture should be the contribution of India for the welfare of humanity. Śrīla Prabhupāda appointed his disciple Dr. T. D. Singh (Bhaktisvarūpa Dāmodara Swami) as the director of the Institute from its very inception and left several instructions to him to carry forward his vision.

The Bhaktivedanta Institute is a center for Advanced Studies in Science and Vedānta and focuses on a consciousness-based paradigm. This spiritual paradigm has a unique potential to resolve

the mind-body problem, the question of evolution and life's origin and many other philosophical and ethical concerns. Thus, this paradigm will have profound significance for science, religion, and their synthesis. One of the primary objectives of the Bhaktivedanta Institute is to present this paradigm for the critical attention of serious scholars and thinkers throughout the world. As such, the Institute supports a closer examination of existing scientific paradigms in cosmology, evolution, physics, biology, and other sciences. The Institute also promotes scientific, philosophical and religious dialogues among scientists, scholars and theologians of the world covering various common conceptual grounds of science and religion for the purpose of creating a better and harmonious understanding among all people. In order to achieve these goals, the Institute organizes international conferences regularly and publishes books and journals. Interested persons may contact the secretary of the Institute at:

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# About

## AIIMS Kalyani

*A Hub of Medical Excellence  
and Innovation with a  
Dynamic Department of Physiology*



AIIMS Kalyani, located in West Bengal, is a premier medical institution dedicated to education, research, and healthcare. Established in 2014 under the Pradhan Mantri Swasthya Suraksha Yojana (PMSSY), its foundation stone was laid in 2015, and operations began in 2019. Initially, the institute admitted 50 MBBS students, with the intake increasing to 125 by 2020. Spread across 180 acres, the campus includes academic buildings, a hospital, an OPD, an Ayush Block, and residential facilities for students and staff. Recognized as an Institute of National Importance, AIIMS Kalyani plays a crucial role in enhancing healthcare services in eastern India.

The institute offers a variety of undergraduate and postgraduate programs. At the undergraduate level, it provides MBBS and B.Sc. Nursing courses. For postgraduate aspirants, AIIMS Kalyani offers MD, MS, and MDS programs. In January 2025, the institute expanded its academic portfolio by introducing super-specialty courses such as DM and M.Ch., alongside Ph.D. programs in various departments. Admission to these programs is based on national entrance exams, including NEET-UG for MBBS and NEET-PG for MD, MS, and MDS. The B.Sc. and M.Sc. Nursing admissions are conducted through the AIIMS Nursing Entrance Test.

Research is a key focus of AIIMS Kalyani, with numerous projects conducted in collaboration with leading institutions. It actively participates in the Indian Council of Medical Research (ICMR)'s Short-Term Studentship (STS) program, fostering research culture among students. The institute has formed partnerships with institutions such as IISER Kolkata, NIBMG, IIIT Kalyani, and IIT Kharagpur to enhance its research capabilities.

AIIMS Kalyani houses a 960-bedded super-specialty hospital with 40 departments. OPD services commenced on January 27, 2021, offering consultations in various specialties, including general medicine, surgery, obstetrics and gynecology, pediatrics, dermatology, ophthalmology, ENT, and psychiatry. Inpatient services were inaugurated on February 26, 2024, by Prime Minister Narendra Modi, with an initial capacity of 360 inpatient beds and 18 ICU beds.

The governance structure of AIIMS Kalyani includes a governing body comprising the president and director of the institute, the chief secretary of the Government of West Bengal, the vice-chancellor of the University of Calcutta, the director of IIT Kharagpur, and the secretary of the Ministry of Health and Family Welfare. This body oversees the institute's operations and funding, ensuring excellence in medical education, research, and patient care.

## **Department of Physiology**

Established in 2019, the Department of Physiology at AIIMS Kalyani is dedicated to providing high-quality medical education, research, and patient diagnostics. Physiology is a fundamental

subject in the MBBS curriculum, covering the normal functions of the human body, from cellular mechanisms to integrated organ systems. The department employs innovative teaching methodologies, including problem-based learning (PBL), case-based learning (CBL), and horizontal and vertical integration across subjects. Both small and large group teaching formats are utilized, fostering interactive and student-centered learning. The curriculum is designed to connect theoretical concepts with clinical applications, ensuring students develop critical thinking skills.

Research is a major focus, with faculty and students actively participating in scientific studies. The department encourages student-led research projects, fostering a culture of inquiry and innovation. Additionally, the department offers specialized diagnostic services, including:

- Pulmonary Function Tests (PFTs) – Assessing respiratory performance.
- Autonomic Function Tests – Evaluating autonomic nervous system efficiency.
- Neurophysiology Assessments – Monitoring nerve and muscle function for neuromuscular disorders.
- Visual Electrophysiology Tests – Investigating visual pathways and retinal function.
- Electroencephalography (EEG) – Measuring brain activity and diagnosing neurological disorders.
- Intraoperative Neurophysiological Monitoring (IONM) – Supporting neurosurgeries.

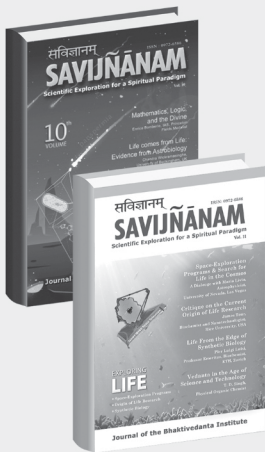
With a strong emphasis on education, research, and patient care, AIIMS Kalyani and its Department of Physiology continue to shape the future of medical science and healthcare excellence in India.



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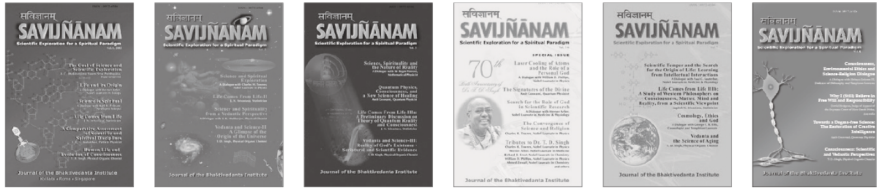
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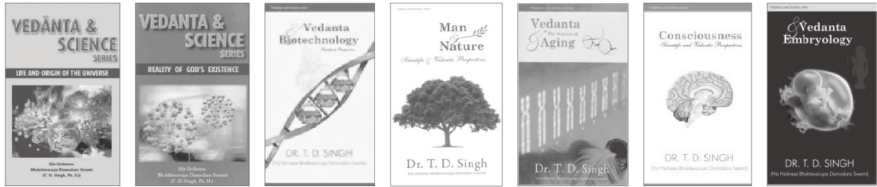
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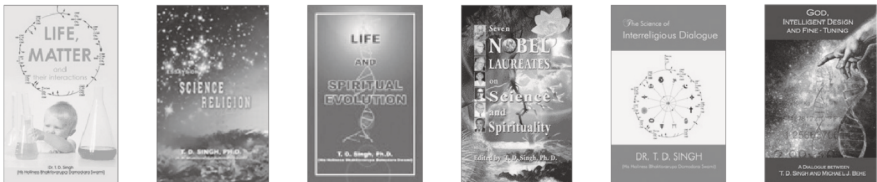
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*Nobel Prize in Physics*

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