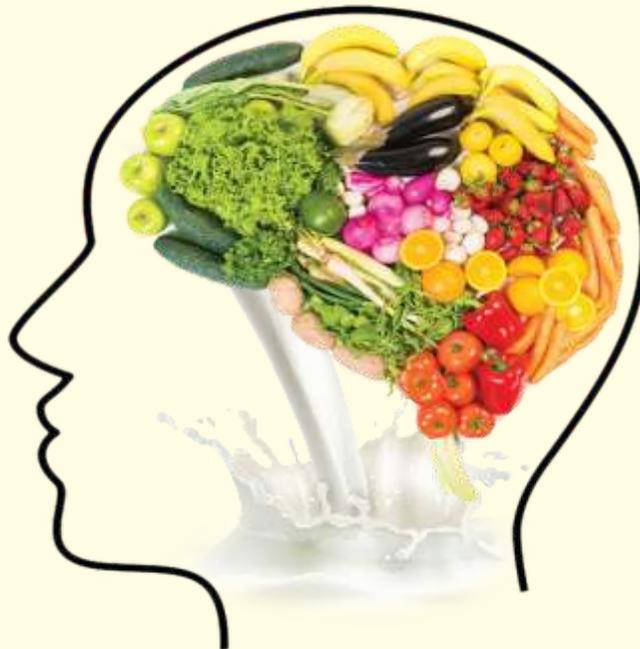




SOUVENIR

Conference on

MILK, FUNCTIONAL FOODS & CONSCIOUSNESS



On

27 September, 2025

at

Dr. N.N. Dastur Auditorium, ICAR-NDRI, Karnal

Organized by :



Bhaktivedanta Institute, Karnal
www.binstitute.org



ICAR-NDRI, Karnal
www.ndri.res.in



ICAR-NDRI, Karnal

ICAR-National Dairy Research Institute (ICAR-NDRI), Karnal, is India's leading institution for dairy research, education, and innovation. Established in 1923 and relocated to Karnal in 1955, NDRI was granted Deemed University status in 1989. It has played a vital role in building scientific strength for India's dairy revolution and continues to support the sector through advanced research and skilled manpower development.

NDRI offers undergraduate, postgraduate, and doctoral programs in dairy science and technology, drawing students from across India and abroad. NDRI has contributed significantly to India's emergence as the world's largest milk producer. The institute has made several pioneering contributions—most notably, the world's first IVF buffalo calf, first cloned buffaloes, the first gene edited buffalo, and the first cloned indigenous cattle breed were born here. With over 70 technologies commercialized, 50+ patents, and national facilities like the Milk Quality Referral Lab, NDRI is a recognized hub of innovation.

With a sprawling campus, modern laboratories, and one of Asia's largest dairy herds, NDRI remains a hub of excellence in dairy science. Through research, innovation, education, and outreach, the institute continues to shape the future of Indian dairying, contributing meaningfully to nutrition security, rural prosperity, and global competitiveness. NDRI continues to drive excellence in India's dairy sector.





Organizing Committee

CHIEF PATRON

Dr. Dheer Singh, Director & Vice Chancellor
ICAR-NDRI, Karnal

PATRONS

Dr. A. K. Singh, Joint Director (Academics)
ICAR-NDRI, Karnal

Dr. Rajan Sharma, Joint Director (Research)
ICAR-NDRI, Karnal

Dr. H.K. Mohanta, Associate Professor
Chemical Engg. BITS, Pilani

Organizing Secretaries

Dr. Suneel Onteru, Head, Animal Biochemistry
ICAR-NDRI Karnal

Mr. Jatin Bhola (Jagadananda Das),
Director, Bhaktivedanta Institute, Karnal

Advisory Committee

Dr. Dheer Singh, Director & Vice-Chancellor, ICAR-NDRI

Dr. Triveni Dutt, Director & Vice-Chancellor, ICAR-IVRI

Dr. G. P. Singh, Director, ICAR-NBPGR

Prof. Ramgopal Uppaluri, IIT Guwahati

Dr. Dinesh Kumar, Principal Scientist, ICAR-DWR

Dr. Suneel Onteru, Principal Scientist, ICAR-NDRI

Dr. Rajesh Agarwal, NIT, Kurukshetra

Dr. Kapil Kumar, NIT, Delhi

Words of Appreciation

With deep humility and heartfelt gratitude, we acknowledge the inspiration and blessings of our conference visionary, Dr. T. D. Singh, whose divine vision and encouragement made this gathering possible. We lovingly remember the late Prof. Sudipto Ghosh, whose constant support and uplifting words always motivated the Karnal members to strive for higher purposes. Our heartfelt thanks also go to HH BS Vrajapati Swami, HH BS Vrajendra Swami, and Prof. Ramgopal Uppaluri for their encouragement and valuable advice.

Special appreciation is extended to HG Madan Manohar Das ji and HG Dwijamani Das Ji for their multifaceted support in shaping the conference. We extend our heartfelt gratitude to H. K. Mohanta and his team for their dedicated efforts in evaluating the posters. Our deepest appreciation goes to Dr. Suneel Onteru, H.M. Bhusan and Dr. Dinesh Kumar for their constant guidance and unwavering support throughout the preparations of this conference. We are greatly obliged to Mr. Aditya for managing the poster competition and to Ms. Kanak Prabha for preparing the articles and layout of the conference souvenir. We acknowledge the invaluable services rendered by Vishal Pawar, Sonia Chabra, Himanshu, Ankit, Kuldeep, Bhavnesh & Deepika Taneja, Lucky Arora and all our supporters and well-wishers.

We extend our thanks to all the schools and colleges, principals and coordinators for encouraging their students to actively participate in the poster competition and conference. We are grateful to Dr. Dheer Singh, Director & Vice-Chancellor, ICAR-NDRI, for granting us permission to use the auditorium as the conference venue. Our heartfelt thanks also go to our valuable sponsors for their significant support.

We are thankful to each and every individual who has contributed directly or indirectly to organizing this event. Special thanks are due to the speakers, delegates, and volunteers for creating and sustaining a lively and stimulating environment in the auditorium. Once again, we convey our special thanks to our sponsors, without whose support organizing this conference would have been very challenging.

JATIN BHOLA

(Jagadananda Das)

Director, Bhaktivedanta Institute,
Karnal



Dedicated to



Dr. T. D. Singh

(His Holiness Bhaktisvarupa Damodara Swami)

1937-2006

Founding Director of Bhaktivedanta Institute

**A Visionary and Pioneer in Science and Spirituality
on His 19th Disappearance day.**

Conference Schedule			
Arrival of Chief Guest and Dignitaries: 09:30 hrs. Lighting of Inaugural Lamp: 09:35 hrs.			
Programme Overview:			
S.No.	Speaker	Topic/Presentation	Time
INAUGURATION & WELCOME ADDRESS 09:35 – 10:00 hrs			
1	Dr. Dheer Singh, Director & Vice-Chancellor, ICAR-NDRI	Milk ITK & Scientific Validation	10:00 -10:25 hrs.
Question and Answers 10:25-10:30 hrs.			
2	Prof. Vaidya Kartar Singh Dhiman, Vice-Chancellor, Shri Krishna AYUSH University, Kurukshetra	Milk and Food in Indian Knowledge System	10:30 -10:55 hrs.
Question and Answers 10:55-11:00 hrs. Snacks Break & Poster Session (Topic: Food & Mental Health): 11:00 -11:30 hrs.			
3	Dr. KSMS Raghav Rao, Professor, IIT Tirupati & Former Director, CSIR-CFTRI	Future Prospects for Marketing Indian Traditional Milk Products & Functional Foods	11:30-11:55 hrs.
Question and Answers 11:55-12:00 hrs.			
4	Dr. A.K. Mukhopadhyay, Former Professor, AIIMS, Delhi	Milk and Mental Health	12:00-12:25 hrs.
Question and Answers 12:25-12:30 hrs.			
5	Sri. K. Vasudev Rao, President, Bhaktivedanta Institute, Kolkota/alumnus IIT Kanpur & Sri Varun Agarwal, Director, Bhaktivedanta Institute, Kolkota/alumnus IIT Kanpur	Importance of Food on Consciousness	12:30-12:55 hrs
Question and Answers 12:55-13:00 hrs.			
Oral Presentation of the selected posters			13:00-13:30 hrs
Prize Distribution			13:30-14:00 hrs
Concluding remarks			14:00-14:15 hrs
Vote of Thanks			14:15-14:30 hrs
Lunch			14:30 hrs ..

Contents

Conference Schedule	4
Contents	5
Quotations	6
Messages	7
Conference Visionary	10
Activities of the Bhaktivedanta Institute	15
Food Categorization & Effect on Mental Health	21
- Srila A. C. Bhaktivedanta Swami Prabhupada	
Life & Consciousness	23
- Dr. T. D. Singh	
Presentation Abstracts	26
Speaker's Biographies	37
About Bhaktivedanta Institute	40
Sponsors	45

Quotations on Food

"You are what you eat."

- Anthelme Brillat, French renowned writer

"Milk, an elixir of Life"

- Ayurveda

"Food, in the end, in our own tradition, is something holy. It's not about nutrients and calories. It's about sharing. It's about honesty. It's about identity."

- Louise Fresco, Dutch scientist and writer

"By changing the food that you eat, you can totally change your biology, your health, and your consciousness."

— Dr. Gabriel Cousens, American homeopath and practitioner of holistic medicine

आहारशुद्धौ सत्त्वशुद्धिः, सत्त्वशुद्धौ ध्रुवा स्मृतिः, स्मृतिलम्भे सर्वग्रन्थीनां विप्रमोक्षः ।

"When there is purity of food, there is purity of mind. When there is purity of mind, there is steadfast remembrance. When there is retention of remembrance, there is definitive and complete release from all entanglements."

- Chāndogya Upanisad:7.26.2

अन्नं ब्रह्मा रसो विष्णुः भोजना देवता स्मृतः । भुक्ते भक्त्या ततः पश्चात् त्रिसिः प्रजायते ॥

"Food is Brahma, taste is Vishnu, and digestion is a divine process. When food is consumed with devotion, it leads to satisfaction and nourishment."

हितं मितं च रूच्यं च भोजनं सप्तधातुभृत । सम्यक् चेष्टाश्च कर्तव्या भोजनान्ते हिताय च ॥

"Healthy food should be nourishing, balanced, and enjoyable. After eating, one should engage in proper post-meal activities for good digestion."

अर्धं भोजनं चतुर्थं जलं चतुर्थं विवर्जयेत् । चतुर्थं चानिलेनाप्याय्यायेत स्वस्थमात्मना ॥

"Half food, one quarter water, and leave one quarter empty for air, and one will be healthy."

- Charak Samhita

यज्ञशिष्टाशिनः सन्तो मुच्यन्ते सर्वकिल्बिषै । भुञ्जते ते त्वर्घं पापा ये पचन्त्यात्मकारणात् ॥

"The devotees of the Lord are released from all kinds of sins because they eat food which is offered first for sacrifice. Others, who prepare food for personal sense enjoyment, verily eat only sin." - B.Gita 3.13



भा.कृ.अनु.प.-राष्ट्रीय डेरी अनुसंधान संस्थान
ICAR-NATIONAL DAIRY RESEARCH INSTITUTE

(मान्य विश्वविद्यालय)
(Deemed University)

(भारतीय कृषि अनुसंधान परिषद)
(Indian Council of Agricultural Research)

करनाल-132001, (हरियाणा) भारत
KARNAL- 132001, (Haryana) India



डॉ. धीर सिंह, एफएनएससी, एफएनएसएल, एफएनएडीएस
निदेशक

Dr. Dheer Singh, FNAsc, FNAAS, FNADS
Director

संदर्भ सं./Ref. No.
दिनांक /Dated



MESSAGE

It gives me great pleasure to welcome all distinguished speakers, scientists, scholars, teachers, students, devotees, and participants to this special conference on “**Milk, Functional Foods & Consciousness**” at ICAR-National Dairy Research Institute (NDRI), Karnal being jointly organized by Bhaktivedanta Institute, Karnal and ICAR-NDRI.

Milk is nature’s first pure food to mammals. It has been a symbol of nourishment, health, and vitality since ancient times. Hence, it is playing an indispensable role in human nutrition and economy as well as in cultural and spiritual practices. India has been the world’s top milk producer for more than two decades. However, with the rapidly evolving scientific understanding and consumer demand for health-promoting foods, the concept of Functional Foods has emerged as a key area of research and development. Functional dairy products, enriched with bioactive compounds, probiotics, and nutrients, not only provide essential nourishment but also offer additional health benefits such as improved immunity, digestive health, and metabolic well-being.

While the adage ‘We are what we eat’ emphasizes nutrition, understanding the deeper link between nutrients and consciousness is essential for a holistic view of well-being. This conference offers a unique platform to integrate traditional knowledge systems, modern scientific research, and consciousness towards the sustainable production of functional dairy products and their role in promoting human health and well-being.

I am confident that the deliberations, scientific presentations, and interactive discussions during this conference will contribute significantly to advancing knowledge in the dairy sector, enhancing the value of milk-based functional foods, and providing novel insights into their broader role in human consciousness and sustainable development.

I extend my best wishes for a successful and enriching conference.

(Dheer Singh)



Dr. Suresh Kumar Malhotra
Vice-Chancellor

Former Agriculture & Horticulture Commissioner, Ministry of A&FW, Govt
Former Assistant Director General Horticulture, ICAR



MESSAGE

I am happy to know that Bhaktivedanta Institute, Karnal branch is organizing a conference on “Milk, Functional Foods & Consciousness” on 27th September 2025 at NDRI Karnal.

The functional foods are important for maintaining good health. All food substances such as milk, fruits, vegetables, cereals and pulses are known to contain many functional ingredients, which play critical role in physiological action for better health. Our university deals with horticulture crops particularly fruits, vegetables, spices, medicinal and aromatic plants, plantation crops. Many of these crops are highly perishable, different type of processing and value addition technologies are required to be adopted to reduce post harvest losses and further maintain functional quality. The increasing population is demanding for highly nutritious horticulture products. Still a large segment of population is deprived of recommended dietary allowed nutrients to maintain health.

The Bhaktivedanta Institute deserves appreciation for choosing an important area for the conference to bring consciousness about the milk and other functional foods. I am confident this conference will take stock of the situation and will come out with useful recommendations for implementation.

I wish for a grand success of the event.

17-09-2025

(Suresh Kumar Malhotra)



MESSAGE

It gives me immense joy to share a few words for this special souvenir of the conference on Dairy, Food and Spirituality organized by Bhaktivedanta Institute, Karnal in collaboration with ICAR-NDRI, Karnal. This unique gathering has brought together minds and hearts to reflect on the deeper meaning of what we consume and how it shapes our body, mind, and soul.

Dairy foods, rooted in our culture and traditions, are not just sources of nourishment but also symbols of purity, devotion, and sustainable living. When combined with the values of spirituality, they remind us that our meals can be more than physical sustenance—they can be offerings that elevate our consciousness and strengthen our connection to the divine.

I extend my heartfelt appreciation to the organizers, participants, and contributors who made this conference a meaningful journey. May the learnings here inspire us to embrace holistic living, where nutrition and spirituality flow together in harmony.

Dr. Gyanendra Pratap Singh

Director,

ICAR-National Bureau of Plant Genetic Resources,
Pusa Campus, New Delhi

September 23, 2025

Conference Visionary



Dr. T. D. Singh

(His Holiness Bhaktisvarupa Damodara Swami)
A Unique Blend of Scientist and Saint

Dr. Thoudam Damodara Singh (1937–2006), also known as *His Holiness Bhaktisvarūpa Dāmodara Swami*, was the founding director of the Bhaktivedanta Institute. He was one of the world's pioneering exponents of science–spirituality dialogue and interfaith peace initiatives. He identified the root causes of many of the world's pressing problems—such as terrorism, environmental degradation, and social and religious conflict—as stemming from a lack of mutual understanding between empirical science and religion.

As the International Director of the Bhaktivedanta Institute, he authored more than thirty books, delivered hundreds of lectures and seminars, and organized numerous scholarly discussions and international conferences on topics at the interface of science and spirituality. His tireless efforts were groundbreaking, bringing together Nobel Laureates, scientists, spiritual leaders, and policymakers onto a shared platform of constructive dialogue and action for a more peaceful and harmonious world.

Traveling extensively across the globe, Dr. Singh built bridges among communities, cultures, and ideologies. Everywhere he went, he sought to nurture the human spirit of inquiry, love, and peace. Central to his message was the call for a new paradigm of life that moves beyond the mechanistic view of atoms and molecules, to one that acknowledges consciousness, meaning, and purpose as fundamental aspects of reality.

Born in 1937 in the ancient state of Manipur in Northeast India, Dr. Singh excelled in academics and received a Government of India scholarship for

higher education. He pursued doctoral studies in Physical Organic Chemistry at the University of California, Irvine, where he was awarded a Ph.D. in 1974. His research was published in leading journals such as the *Journal of the American Chemical Society* and the *Journal of Organic Chemistry*, focusing on fast proton transfer kinetics in model biological systems using stopped-flow techniques and NMR spectroscopy. He also investigated gas-phase reaction mechanisms using Ion Cyclotron Resonance (ICR) spectroscopy.

While in the United States in 1970, he met his spiritual teacher, *His Divine Grace A.C. Bhaktivedanta Swami Prabhupāda*, a distinguished teacher in the Vaishnava Vedānta tradition. Under Śrīla Prabhupāda's guidance, Dr. Singh undertook advanced studies in Vedānta philosophy. In 1974, Śrīla Prabhupāda founded the Bhaktivedanta Institute and appointed Dr. Singh as its Director. Dr. Singh became renowned for his ability to synthesize two seemingly distinct paradigms of knowledge—Western science and Eastern spirituality. For example, he introduced and defined the term *spiriton* to describe the conscious energy inherent in all living beings, an aspect not addressed within material science.

In addition to his contributions to science and spirituality, Dr. Singh was an active member of the United Religions Initiative (URI), founded by Bishop William Swing under the auspices of the United Nations. Through URI, he played an instrumental role in fostering dialogue among global religious leaders. Referring to this work, he often remarked

with humor, “I am performing the chemistry of culture.” Despite his stature as a world-renowned figure, Dr. Singh remained humble, approachable, and deeply personal in his interactions.

He authored and edited over a dozen influential works, including:

What is Matter and What is Life? (1977); Theobiology (1979); Synthesis of Science and Religion: Critical Essays and Dialogues (1987); Thoughts on the Synthesis of Science and Religion (2001); Life and Spiritual Evolution (2004); Seven Nobel Laureates on Science and Spirituality (2004); Towards a Culture of Harmony and Peace (2005); Science, Spirituality and the Nature of Reality (2005); God is a Person (2006); Life, Matter and Their Interactions (2006); God, Intelligent Design and Fine Tuning (2006); Vedānta and Science Series: Life and Origin of the Universe (2004); Reality of God's Existence (2006).

He was also the founding Editor-in-Chief of two scholarly journals published by the Bhaktivedanta Institute: *Savijnanam – Scientific Exploration for a Spiritual Paradigm* and *Tattvajijnasa – Scientific and Spiritual Quest for the Ultimate Reality*.

Dr. Singh's saintly qualities—compassion, humility, universal brotherhood, and spiritual love—won him admiration worldwide. Despite his profound knowledge of both Vedānta and science, he remained down-to-earth and unassuming throughout his life.

In addition to the Bhaktivedanta Institute, Dr. Singh established the Vedānta and Science Educational Research Foundation, co-founded and served as regional director of the United Religions

Initiative (USA), was a member of the Metanexus Institute (USA), founded the Ranganiketan Cultural Troupe, and served as the Founder-Director of the University of Bhagavata Culture.

Deeply concerned about the holistic development of students, he observed that although the younger generation had access to the latest scientific and technological advancements, they lacked a spiritual foundation to properly apply such knowledge. To address this, he conceptualized the *All India Students' Conference on Science and Spiritual Quest (AISSQ)*, aimed at fostering a holistic integration of science and spirituality in education. He personally organized the first conference in Vrindavan, Uttar Pradesh, in December 2005.

By divine will, Dr. Singh departed for the spiritual realm on 2 October 2006. Nevertheless, he had already arranged for the second AISSQ conference, which was held in December 2006 in Puri, Odisha. He had also envisioned future conferences in Tirupati and Srirangam (Tiruchirappalli). Later, the fifth AISSQ conference was held at MNNIT Allahabad and the sixth at Delhi Technological University in 2011. Notably, both NIT Trichy and MNNIT Allahabad received funding from the prestigious Department of Science and Technology (DST), one of India's apex research institutions.

Today, inspired by his vision, Dr. Singh's students, colleagues, and well-wishers across the globe continue to advance his mission of harmonizing modern culture through the synthesis of science and spirituality. His life and legacy represent a landmark in humanity's quest for truth, combining the rigor of scientific inquiry with the depth of spiritual wisdom.



Bhaktivedanta Institute Director Interacting with Nobel Laureates



Dr. T. D. Singh with Prof. Charles Townes (Physics)



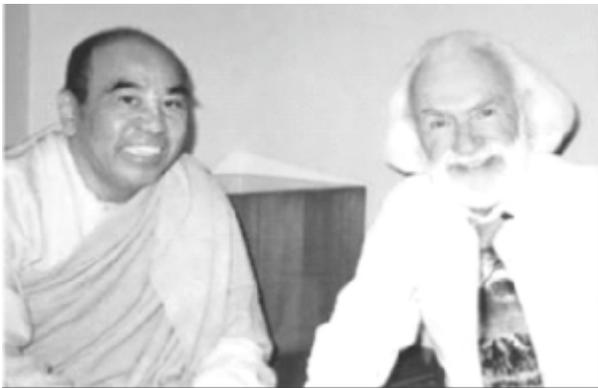
Dr. T. D. Singh with Prof. Alan Macdiarmid (Chemistry)



Dr. T. D. Singh with Prof. Linus Pauling (Chemistry & Peace)



Dr. T. D. Singh with Prof. Richard R. Earnst (Chemistry)



Dr. T. D. Singh with Prof. Karl H. Pribram (Neurologist)



Dr. T. D. Singh with Prof. Werner Arber (Physiology & Medicine)

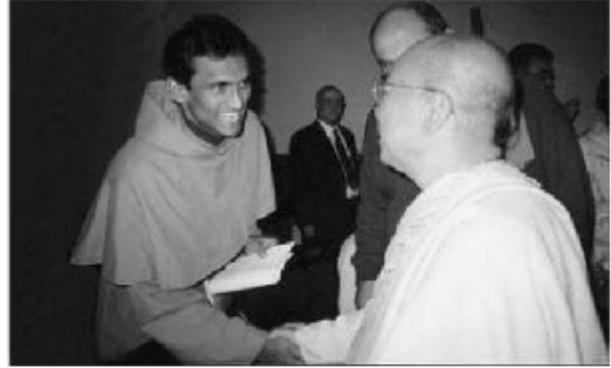


Dr. T. D. Singh with Prof. William D. Phillips (Physics)



Dr. T. D. Singh with Sir Roger Penrose (Physics)

Dr. T. D. Singh interacting with religious leaders from around the world during the conference, 'A Day of Prayer for Peace', held in Assisi, Italy, January, 2002



Dr. T. D. Singh Participating in the 'Uniting for a Culture of Peace in a time of Crisis' conference with religious leaders and United Nations' officials, held at UN Plaza, New York City, USA, in October, 2001



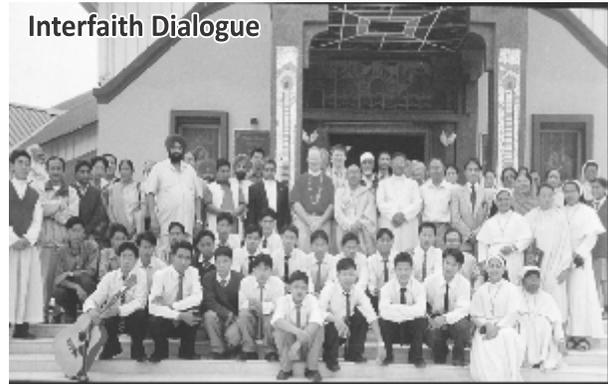
Speakers and Participants in International Conference held in Rome, 2004



H.E. Smt. Pratibha Devisingh Patil, President of India, inaugurating 6th AISSQ, 2011



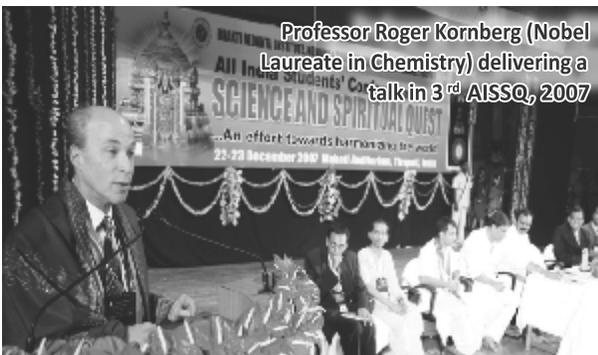
Interfaith Dialogue



Dr. T. D. Singh addressing the students of Bhaktivedanta Mission School



Students and organizers with Prof. Richard R. Ernst, during inauguration of the celebration of — “Year of Science and Spirituality” at Utkal University, Orissa, on 5th January 2012



Professor Roger Kornberg (Nobel Laureate in Chemistry) delivering a talk in 3rd AISSQ, 2007



Bhaktivedanta Institute on wheels



Activities of the Bhaktivedanta institute Karnal

Bhaktivedanta Institute is a non-profit organization dedicated towards the synthesis of science and religion for the benefit of humanity. The purpose underlying the activities of this institute is to provide a platform where the scientists and spiritualists can collectively and harmoniously work together for a deeper understanding of the Ultimate Reality, resolving ethical issues and fostering ways and means to practically achieve peace and harmony both globally and in our personal lives as well.

Dr. T. D. Singh (His Holiness Bhaktisvarupa Damodara Swami), the founding director of Bhaktivedanta Institute and a scientist-saint, started this mission to propagate the synthesis of science and spirituality throughout the world. During one of our discussions with Dr. T. D. Singh about various activities at Karnal, in the year 2006, Dr. Singh highly appreciated our humble attempts in propagating his vision of synthesizing science and spirituality among the students and faculties of National Dairy Research Institute (NDRI), Karnal. He expressed that we should continue our preaching work in Karnal city and thus help in expanding the mission of Bhaktivedanta Institute. The city hosts several educational and research institutes and also being situated close to the sacred place of Kurukshetra, offers a fertile ground to carry out the instructions of Dr. T. D. Singh. Since then Bhaktivedanta Institute, Karnal continued to conduct numerous seminars, conferences and workshops based on the synthesis of Vedanta and Science in and around the Karnal city of Haryana.

Science and Spirituality are two dominant forces that are shaping our world today and a synthesis of the two is what is going to take us into the future as a successful and well evolved species. This requires the co-integration of scientific principles into spiritual practices and vice versa. Bhaktivedanta Institute aims to establish and develop a centre for advanced studies in Vedanta and Science focused on a consciousness based paradigm to resolve the mind body problems, research on evolution, the origin of life and the universe and address issues of ethical concerns and of human values.

We organize lectures, seminars, workshops, and courses on science and spirituality in various academic institutes where we actively interact with the students, faculty members, and professionals.

Activities to propagate the ancient value based Vedic knowledge through scientific understanding:

1. A guest lecture on "Human Devolution" by Michael A. Cremo from Vedic Research Center, Los Angeles, USA at National Dairy Research Institute, Karnal, in 2009.

2. Half day conference on “Value Based Education” at National Dairy Research Institute, Karnal, in 2010.
3. A conference on “Science, Religion and World Peace” at NIT Kurukshetra in 2010. Over 1000 students from different universities like NDRI, Karnal; RPIIT, Karnal; Kurukshetra University, Kurukshetra and NIT itself participated. The chief guest of the event was Prof. P.B. Sharma, Vice Chancellor – Delhi Technological University.
4. Three-Day Workshop on Science and Spirituality at NIT, Kurukshetra in January, 2011 by Prof. Ramgopal Uppalluri from IIT, Guwahati.
5. A conference on “Symbiosis of Science and Spirituality for Holistic Growth” at NDRI, Karnal in August 2012 : over 500 students participated. The chief guest of the event was H.G. Brihaspati Das from Vedic research centre, France. The director of the Bhaktivedanta Institute, Kolkata Sri Varun Agarwal was main speaker. The Guest of honor Dr. A. K. Srivastava, Director & Vice chancellor of NDRI, Karnal released souvenir.
6. Seminar on “Science of Positive Thinking” at NIT, Kurukshetra in 2013: over 1000 students participated. The chief guest of the event was Prof. P.B. Sharma – Vice chancellor, Delhi Technical University. For students; oral competition, essay competition, written quiz and drama were organized.
7. “Divine Eve – Spirituality for professionals” organized at Karnal club in 2014: The chief guest of the event was Dr. A. K. Srivastava, Director & Vice chancellor of NDRI, Karnal. The main speaker of the event was Sri K. Vasudev Rao from Bhaktivedanta institutie, Kolkata. Over 600 students and professionals participated. The main attraction of the event was Manipuri cultural performance by Drummers.
8. “Cultural Eve – A Festival of Bliss” held at Golden moments banquet hall, Karnal on 27th August, 2017. The main speakers were Kalicharan Nayak, Rolls Royce, Bengaluru and Ramanuja Das, Bhaktivedanta Institute, Kolkata. 400 students and professionals attended the program.
9. International Conference on ‘Science, Religion, and World Peace’ was held at the Government Degree College Auditorium in Dharamshala, Himachal Pradesh, on November 4, 2017. The keynote speaker was His Holiness the Dalai Lama, a Nobel Laureate in peace. Over 1,200 delegates from 22 countries participated in the conference.

Besides these, we also conduct various programs for school children where they can scientifically learn values prescribed in Vedic practices in the form of festivals and healthy competitions.

We conduct tours and retreats to various holy places in India where one can become surcharged with the spiritual vibrations of these places. We distribute the publications of the Bhaktivedanta Institute (Books, Journals, magazines, etc.) to various libraries at Universities, educational institutions, individuals and students.

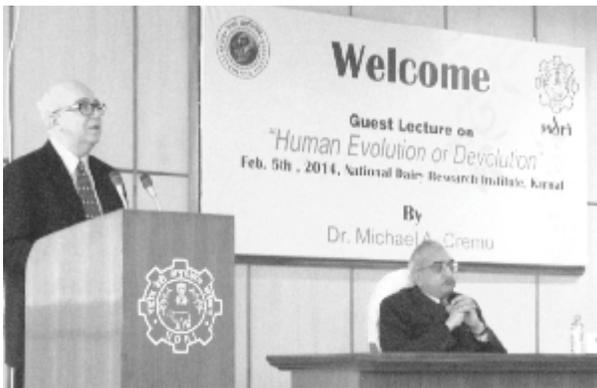


Activities of Bhaktivedanta Institute, Karnal

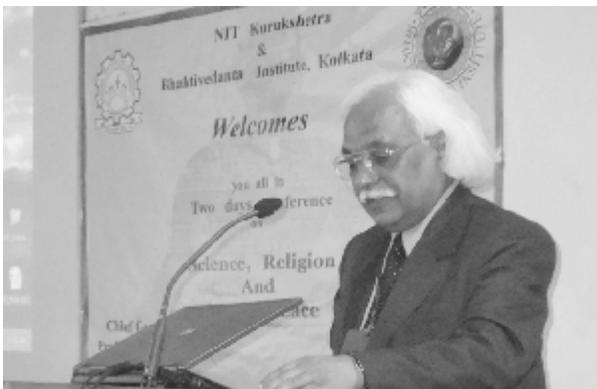
Workshop on "Science of Positive Thinking" NIT Kurukshetra



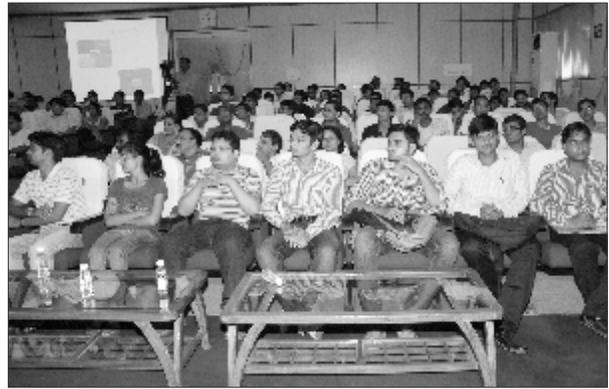
Guest Lecture on "Human Evolution or Devolution" by Michael A Cremo at NDRI Karnal



Conference on "Science, Religion and World Peace" at NIT Kurukshetra



Conference on “Symbiosis of Science and Spirituality for Holistic Development” at NDRI Karnal



Seminar on “Spirituality for Professional” at Karnal Club, Karnal



“Value Imparting Program on Science and Spirituality” at Dayal Singh College, Karnal



“Cultural Eve : Festival of Bliss” at Golden Moments, Karnal



**International Conference on “Science, Religion & World Peace”
at Govt. Degree College, Auditorium, Dharmshala (H.P.)
(Keynote Speaker : His Holiness The Dalai Lama, Nobel Laureate in Peace)**



Current Activities (2024-2025)

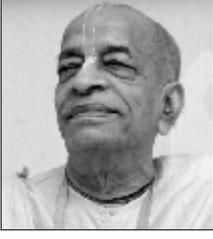




Science and Spirituality Books Exhibition



Food categorization & effect on Mental Health - Vedic Perspective



Srila A. C. Bhaktivedanta Swami Prabhupada
Founder Acharya Bhaktivedanta Institute

आयुः सत्त्वबलारोग्यसुखप्रीतिविवर्धनाः ।
रस्याः स्निग्धाः स्थिरा हृद्या आहाराः सात्त्विकप्रियाः ॥

कट्म्वम्ललवणात्युष्णतीक्ष्णरूक्षविदाहिनः ।
आहारा राजसस्येष्टा दुःखशोकामयप्रदाः ॥

यातयामं गतरसं पूति पर्युषितं च यत् ।
उच्छिष्टमपि चामेध्यं भोजनं तामसप्रियम् ॥

B.Gita : 17.8, 9, 10

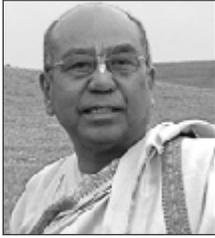
The purpose of food is to increase the duration of life, purify the mind and aid bodily strength. This is its only purpose. In the past, great authorities selected those foods that best aid health and increase life's duration, such as milk products, sugar, rice, wheat, fruits and vegetables. These foods are very dear to those in the mode of goodness. Some other foods, such as baked corn and molasses, while not very palatable in themselves, can be made pleasant when mixed with milk or other foods. They are then in the mode of goodness. All these foods are pure by nature. They are quite distinct from untouchable things like meat and liquor. Fatty foods, as mentioned in the eighth verse, have no connection with animal fat obtained by slaughter. Animal fat is available in the form of milk, which is the most wonderful of all foods. Milk, butter, cheese and similar products give animal fat in a form which rules out any need for the killing of innocent creatures. It is only through brute mentality that this killing goes on. The civilized method of obtaining needed fat is by milk. Slaughter is the way of subhumans. Protein is amply available through split peas, dal, whole wheat, etc.

Foods in the mode of passion, which are bitter, too salty, or too hot or overly mixed with red pepper, cause misery by reducing the mucus in the stomach, leading to disease. Foods in the mode of ignorance or darkness are essentially those that are not fresh. Any food cooked more than three hours before it is eaten (except *prasâdam*, food offered to the Lord) is considered in the mode of darkness. Because they are decomposing, such foods give a bad odor, which often attracts people in this mode but repulses those in the mode of goodness.

Remnants of food may be eaten only when they are part of a meal that was first offered to the Supreme Lord or first eaten by saintly persons, especially the spiritual master. Otherwise, the remnants of food are considered to be in the mode of darkness, and they increase infection or disease. Such foodstuffs, although very palatable to persons in the mode of darkness, are neither liked nor even touched by those in the mode of goodness. The best food is the remnants of what is offered to the Supreme Personality of Godhead. In *Bhagavad-Gitâ* the Supreme Lord says that He accepts preparations of vegetables, flour and milk when offered with devotion. *Patram pushpam phalam toyam*. Of course, devotion and love are the chief things which the Supreme Personality of Godhead accepts. But it is also mentioned that the *prasâdam* should be prepared in a particular way. Any food prepared by the injunctions of the scripture and offered to the Supreme Personality of Godhead can be taken even if prepared long, long ago, because such food is transcendental. Therefore, to make food antiseptic, eatable and palatable for all persons, one should offer food to the Supreme Personality of Godhead.



Life and Consciousness



Dr. T. D. Singh

(His Holiness Bhaktisvarupa Damodara Swami)
Founding Director, Bhaktivedanta Institute

We can all agree that consciousness is one of the most important characteristics of life. Nobody can deny its existence. It is the birth place of noble human qualities such as forgiveness, humility, love, etc., and it is also the birth place of sacrifice, tolerance and truthfulness. In fact, it is the birth place of even the creative scientific theories being guided by the Supreme Spirit, God.

According to Vedanta, consciousness is a fundamental quality of the 'spiriton'. Thus, it is purely spiritual and transcendental to matter. As explained earlier, matter is the inferior energy of the Supreme Lord. It is inferior because matter, however complex it may be, will never have conscious symptoms. On the other hand, the living entities are the superior energy of the Supreme being. They are superior because they have consciousness. The renowned physicist, Eugene Wigner also expressed, "There are two kinds of reality or existence; the existence of my consciousness and the reality or existence of everything else."¹

All living beings, microorganisms, birds, animals, etc., possess different degrees of consciousness. In other words, all these living beings are covered by different degrees of three modes of material nature. Microorganisms exhibit very little symptom of consciousness because of the very thick layers of covering of the material modes. However, they possess consciousness. The well-known biologist, George Wald and others such as, Lynn Margulis indicated that Protozoa, single-celled animals, and bacteria also possess consciousness.

Since the last few decades there is a growing interest to investigate consciousness among quantum physicists, neuro-physiologists, cognitive philosophers, and spiritualists. William James, von Neumann, Eugene Wigner, Erwin Schrodinger, and David Bohm are some of the pioneers in the study of consciousness. One common feature among the leading quantum physicists is that they all try to explain the collapse of the wave function through some interaction of the mind or consciousness. However, there are also other scholars who object such a notion. In the author's opinion, quantum mechanics, with its limitations in mathematical language, can, at best, indicate the presence of consciousness but can neither prove it nor describe it. Max Planck remarked, "It is a fact that there is a point, one single point in the immeasurable expanse of mind and matter, where science and therefore every casual method of research is inapplicable, not only on practical grounds, but also on logical grounds, and will always remain inapplicable. This is the point of individual awareness." There are many different views among scholars regarding consciousness and a deeper study is necessary.

According to Vedanta, consciousness is not a function of the brain. As said earlier, the brain in developed living beings is an important organ of the body machinery in which the symptom of consciousness is transmitted. The conscious energy is transmitted from the spiritual soul, 'spiriton'. Thus, consciousness is purely spiritual. It is the living energy and the fundamental quality of life particle, 'spiriton'. Just like a computer, however

sophisticated it may be, will never be conscious because it will never have understanding of what it does. The program has to be supplied by an intelligent programmer. The computer is simply relaying the circumstantial choice fed into the program by the programmer, the human soul. It will be a good research field to study how the conscious energy is transmitted from the spiritual soul, 'spiriton' to the brain.

Niels Bohr, who made profound contributions to our understanding of atomic structure and quantum mechanics expressed, "We can admittedly find nothing in physics or chemistry that has even a remote bearing on consciousness. Yet all of us know that there is such a thing as consciousness, simply because we have it ourselves. Hence consciousness must be part of nature, or more generally, of reality, which means that, quite apart from the laws of physics and chemistry, as laid down in quantum theory, we must also consider laws of quite a different nature."²

Furthermore, Vedanta describes matter as the field of activity and by its nature, matter is inert and has no consciousness. But there is interaction between the individual particle of consciousness and matter through universal consciousness. Moreover, the natural events that are taking place in the material world are maps of the events occurring in the spiritual plane (consciousness).

About four centuries ago, the famous French philosopher Rene Descartes concluded that he knew one thing for certain: "I think, therefore I am."³ From the Vedantic point of view, the expression, 'I am' is the conscious experience and inherent transcendental property of the self. Thousands of years before Descartes, the sages of the Vedic tradition realized the principle even a step further, *ahambrahmâsmi*, meaning, I am *Brahman*, I am spirit, conscious self. This is consciousness for which the Sanskrit word is *cetanâ*. The act of thinking by a human being is the symptom of consciousness and it belongs to life. False consciousness is exhibited under the impression that 'I am a product of material nature.'

Thus, modern biologists and biochemists should include the study of consciousness in their research works. The field should not be left mainly

to the neuroscientists, quantum physicists, psychologists, and philosophers only.

Consciousness, Inquiry and the Uniqueness of Human Life

Inquiry, *jijnasa* is another fundamental quality of life. Everyone inquires about something or the other. In the course of life, a person experiences different phases like old age, disease and many kinds of sufferings. He then inquires, "Why am I suffering?" Therefore, he wants to find out the solution to these problems. Every research work is a kind of inquiry. Humanity begins when this sort of inquiry is awakened in one's mind. This quest for understanding the deeper meaning of life is the turning point in the life of individuals.

Therefore, inquiry forms the most important process of acquiring knowledge. We want to know about things that are beyond what we can see conventionally. We invent electron microscope, telescope etc., to satisfy our curiosity. But this is not enough. Our senses and extended senses are still very limited.

Can a bird inquire about the meaning of its existence? Innocent and ordinary living beings like birds and animals inquire only of bodily needs. They inquire, 'Where is water?, Where is food?, Where is shelter', and so on. However, they do not have the capacity to inquire about the deeper purpose and meaning of life. But in the human form of life, one is endowed with the unique ability to inquire beyond these bodily needs. This is the special and unique qualification of the human form of life.

When a child is growing up, he inquires from his parent about many things around him. Such as 'what is this?' 'what is that?' etc. In this way, the child gathers knowledge from his parents. Since the conscious intelligence is fully developed, human beings can make different levels of inquiry including the deeper questions about life. The most important inquiry of human life should be to find out about the Absolute Truth, *jivasya tattva jijnasa* (*Srimad Bhagavatam* 1.2.10)

The ability to inquire about the ultimate truth of life makes the human being uniquely different from all other forms of life. Newton asked why the apple

fall. As an answer to this question, he discovered the law of gravitation. Thus Vedanta emphasises that the primary subject matter of the human form of life is to inquire about the science of Absolute truth, God.

The *katha Upanisad* (1.3.14) in a very strongly and carefully worded tone makes a clarion call to all human beings in the following sloka:

*uttistha jagrata prapya varannibodhata !
ksurasya dhara nisita duratyaya
durgam pathastatkavayo vadanti !!*

Translation: Arise! Awake! Please try to understand the boon that you now have in this human form of life. The path of spiritual realization is very difficult; it is sharp like a razor's edge, difficult to tread and hard to cross, so say the learned sages.

'Who am I?' 'what is the Supreme Truth?' 'what is the origin of life?' 'what is existence, 'what will be the fate of the human soul when the body dies?' are some of the basic question that a human being can inquire. Human life is the result of spiritual evolution.

Presently, scientific inquiry without spiritual knowledge is one sided. All forms of human inquiry should be utilized in the search for Absolute Truth, God. Hence, the purpose of all science should be to inquire about the nature of God. A physicist should inquire: what is the real source of the laws of nature? A chemist can inquire: who is the Supreme Chemist behind all the wonderful molecules, DNA, Chlorophyll, proteins, etc. Vedanta explains that if we do research far enough, we will find that the ultimate source is God. Thus, Vedanta cautions that intelligent people should not be misled by the temporary and incomplete pronouncements of atheistic scientist who try to remove God from everything. This will be the proper use of the modern scientific knowledge. When one realizes, he will understand the actual basis of reality. And then, his duty is to glorify the Supreme Lord through the scientific understanding. This is the secret and the real platform of happiness. This is what Narada Muni, the foremost transcendentalist instructed his

disciple, Vyasadeva, the literary incarnation of the Supreme Lord in the *Bhagavata Purana*, the natural commentary on the *Vedantasutra*.⁸

Albert Einstein once remarked, "The important thing is not stop questioning. Curiosity has its own reason for existing. One cannot help but in awe when he contemplates the mysteries of the eternity of life, of the marvelous structure of reality. It is enough if one tries merely to comprehend a little of this mystery everyday."⁹

In the human form of life, the consciousness (*cetana*), intelligence (*buddhi*), mind (*manas*), senses (*indriyas*) are fully developed. Thus, human being is totally equipped to make deepest *jijnasa* (inquiry), the spiritual inquiry. A similar message echoes in the statement of Albert Einstein who states that knowing the plan of God is most important and the rest are details. By this inquiry, *sambandha*, the relationship between the self and God will be established and the pure spiritual knowledge of the self will be understood. *Isa Upanishad* further declares, *isavasyamidam sarvam*, everything belongs to the Supreme Lord. Therefore, everything should be used, including the works of the scientist and all the leaders of the world in the service of the Supreme Lord. In a nutshell, this is the view of Vedanta regarding the prime duty of humanity.

Notes and References

1. Eugene p. Wigner, "Two Kinds of Reality," *The Monist*, Vol. 48, 1964, p.250.
2. T. D. Singh and R.L. Thompson, back cover, *Consciousness The Missing Link*
3. *Discours de la Mithode*, 1637.
4. A. C Bhaktivedanta Swami Srila Prabhupada, *Srimad- Bhagavatam*, Canto 1, Ch.2, Verse 10, Bhaktivedanta Book Trust, Bombay, 1987.
5. *Srimad- Bhagavatam*, Canto 1, Ch. 5, Verse 21, Ibid.
6. In Donald O. Bolander, Instant Quotation Dictionary, 1979.
7. R. Clarck, *The Life and the Times of Einstein*, The World Publishing Co., New York, 1971, p.19.



Presentation Abstracts

Milk ITK & Scientific Validation



Dr. Dheer Singh

Director & Vice-Chancellor

ICAR – National Dairy Research Institute, Karnal

Indigenous Technical Knowledge (ITK) is applied knowledge developed by local communities over generations through empirical observations, critical thinking and cultural beliefs to provide sustainable solutions using locally available eco-friendly resources. In addition to cultural beliefs, ITK sometimes integrates the philosophical and spiritual dimensions. For example, milk and milk products are considered sacred in many rituals in India. Since ancient days, several ITK based solutions have been traditionally and sustainably followed in milk processing and dairy production in our country.

ITK in milk processing and value addition

Historically, milk is preserved in clay pots either with neem leaves or smoke. Such practice has been scientifically proven to delay the spoilage of milk (Singh & Yadav, 2017). The most important ITK in milk processing and value addition since ancient India is preparing fermented dairy products like dahi, butter, ghee, and sweets in normal routine traditional daily life as well as during offerings to almighty in religious and spiritual practices. This reflects the significance of ITK in recognising the health benefits of milk processing, including the usage of probiotics implicitly. Several scriptures indicate that Lord Krishna, the most intelligent Supreme Being, used to consume these fermented products during his childhood. Further, milk fermentation can be seen as process of transformation and balance, which symbolizes the evolution of consciousness from raw material to elevated state. As the fermented dairy products are prepared with natural cultures with traditional methods, some scientific studies validated the shelf

life improvement and health benefits of the milk products prepared with natural microbial cultures for milk fermentation (Gupta and Sharma, 2019).

One of the most remarkable traditional practices of ITK is the preparation and consumption of Haldi (Turmeric) Milk, which is also known as “Golden Milk” in Ayurveda. The turmeric milk is known to improve immunity and well-being not only because of the milk nutrients but also of curcumin, an active ingredient of turmeric. Implicitly, adding turmeric into milk has great value for its better adsorption. As turmeric is a hydrophobic compound, its absorption is less if taken with water. Recent studies in ICAR-NDRI showed that milk has nanostructures called milk extracellular vesicles (mEVs) or exosomes, which are resistant to human digestive process and they can cross the intestinal barrier (Baddela et al., 2016; Rani et al., 2017). As curcumin is more hydrophobic molecule, it could easily enter into mEVs, resist the digestion process and can cross the intestinal barrier, so that curcumin can be transported into circulation (Vashist et al., 2017). These latest research endeavours are paving a way towards the value addition of milk for its extracellular vesicles usage as smart delivery vehicles for pharmaceuticals in nanomedicine and chemotherapy.

ITK in dairy production:

Considering Vedic traditions of treating animals with care and compassion, thatched roofs have been followed in all “Goshalas” to reduce heat stress to dairy animals while highlighting this approach as a part of circular economy and sustainability. Thatched roofs are generally constructed with locally available straw, paddy husk, grass, bamboo,

and palm leaves, which facilitate the movement of air through pores during hot summer season and if they are multiple layered roofs, then they protect the animals in rainy season as well. This ITK was scientifically validated by several studies (Sivakumar et al., 2017; Sahu et al., 2018; Singh et al., 2020) which practically observed that dairy animals rearing under thatched roofs showed lower heat stress indicators such as respiration rate and body temperature and improvement in milk production.

Likewise, important ITKs for udder infection (mastitis) prevention are cleaning the udder either with neem leaves decoction or applying turmeric paste before and after milking. Scientifically, it is well known that neem decoction contains triterpenoids, Azadiractin and Nimbin, which have antibacterial and anti-inflammatory properties, thereby reducing milk somatic cell count, an important measurement of mastitis (Chandra et al., 2016). Likewise, Parihar et al. (2014) also validated the effect of turmeric paste on reduction of bacterial counts and promotes faster healing of udder in mastitis.

Another noteworthy ITK in dairy production is fodder management. Traditionally, farmers feed dairy animals with specific combinations of locally available grasses and legumes especially during pregnancy and lactation for higher milk yield and better animal health. The idea of such mixed fodder systems was observed to increase 15% in milk production in comparison to single type of fodder feeding (Pathak et al., 2015).

Conclusion:

The ITK based on empirical observations and historical experiences in dairy production, processing and value addition appear to have more scientific credibility. However, future studies need to be focused to support the scientific credibility of many ITK based approaches in Indian dairying while exploring modern dairy practices. Such studies not only help in protecting ITK but also enhance public health and economic benefits.

References:

1. Sahu, S., Singh, D., & Mishra, A. (2018). Traditional Cattle Shed Design in India and its impact on Thermal Comfort and Milk Production. *Agricultural Engineering Today*,

- 42(2), 25–31.
2. Singh, A.K., Yadav, D.K., Bhatt, N., Sriranga, K.R. and Roy, S., 2020. Housing management for dairy animals under Indian tropical type of climatic conditions-a review. *Vet. Res. Int*, 8(2), pp.94-99.
3. Sivakumar, T., Suraj, P.T., Yasotha, A. and Phukon, J., 2017. Identification of suitable housing system for dairy cattle in North East Zone of Tamil Nadu, India, with respect to microclimate. *Veterinary World*, 10(1), p.1.
4. Chandra, H., Sharma, P., & Sharma, N. (2016). Evaluation of Antibacterial Activity of Neem Extract (*Azadirachta indica*) on Mastitis Pathogens. *International Journal of Livestock Research*, 6(4), 41–48.
5. Parihar, S. S., Mishra, S., & Singh, R. (2014). Antimicrobial and anti-inflammatory potential of turmeric (*Curcuma longa*) in bovine mastitis: An experimental approach. *Veterinary World*, 7(8), 636–641.
6. Pathak, N., Prasad, R., & Kumar, V. (2015). Effect of mixed fodder systems on milk yield and animal health in indigenous cattle. *Indian Journal of Animal Nutrition*, 32(1), 10–17.
7. Gupta, A., & Sharma, V. (2019). Probiotic potential of naturally fermented dairy products: A review. *Journal of Food Science and Technology*, 56(5), 2341–2350.
8. Vashisht, M., Rani, P., Onteru, S.K. and Singh, D., 2017. Curcumin encapsulated in milk exosomes resists human digestion and possesses enhanced intestinal permeability in vitro. *Applied biochemistry and biotechnology*, 183(3), pp.993-1007.
9. Baddela, V.S., Nayan, V., Rani, P., Onteru, S.K. and Singh, D., 2016. Physicochemical biomolecular insights into buffalo milk-derived nano vesicles. *Applied biochemistry and biotechnology*, 178(3), pp.544-557.
10. Rani, P., Vashisht, M., Golla, N., Shandilya, S., Onteru, S.K. and Singh, D., 2017. Milk miRNAs encapsulated in exosomes are stable to human digestion and permeable to intestinal barrier in vitro. *Journal of Functional Foods*, 34, pp. 431-439.



Milk and Mental Health



Dr. Ashok Kumar Mukhopadhyay, MD
A Student of Consciousness
Retired Prof.& Head Laboratory Medicine, AIIMS, Delhi

Expanded Abstract

Mental Health depends on the Brain-health, the Psychic-health, and the health of the connecting factors between the brain and the psyche. Milk here means dairy milk and includes some milk products too.

Milk as a Food

The milk-drinkers are mostly from pediatric and geriatric age groups. Milk is the source of almost all natural nutritional constituents rich in six kinds of food; proteins, carbohydrates, fat, vitamins, minerals and of course water, along with antioxidants. Each of the six kinds of food has special characteristics in the milieu of milk.

The specialty of the milk protein is in its combination of slow-absorbing casein (80%) and fast absorbing whey (20%) which is rich in branched chain amino acids (BCAA) like valine, leucine isoleucine. Milk proteins contain all nine essential amino acids, which the human body cannot synthesize. Both casein and whey can be broken down into bioactive peptides having antioxidant properties, relevant also in immune modulation, antimicrobial activity. Amino acids like tryptophan and tyrosine are precursors of neurotransmitters. Besides, milk contains insulin-like growth factor (IGF) and some immunoglobulins like IgG, IgA (rich in human milk) which may neutralize many microbes and allergens. Milk's IgM handles parasites. "Immune milk" can be used for specific infections.

The milk fat is also special because it contains

all three essential fatty acids, four fat soluble vitamins (Vit A, D, E, K). Vit D is fortified in milk. Milk fat's complex physical properties make its mouthfeel, give it flavor and plasticity. Functional properties of milk fat are easily modifiable. Milk, however is almost deficient in polyunsaturated fatty acids.

Almost the total carbohydrate content of milk is lactose (a disaccharides of glucose and galactose), less damaging to teeth, but beneficial to gut bacteria. However lactose intolerance in many people (almost 65-75% of the adult population across the globe) remains an issue.

The specialty of milk minerals are their bioavailability (especially selenium, calcium, phosphorus, potassium, magnesium, iodine) because of its milieu. Milk is notoriously deficient in iron.

The milk is a good source of fat soluble and water soluble vitamins, rich in Riboflavin (B₂) and B₁₂, contains other vitamins like B1 (Thiamin) B5 (pantothenic acid) and B3 (Niacin) and small amount of folic acid for which the milk could be fortified. The milk has no Vit C.

Drinking water is calorie-free. However, the milk is more hydrating in some special situations, as in the elderly and children, after strenuous exercise, and in case of mild dehydration (because of its mineral contents).

In addition, the milk has both fat-soluble and water-soluble antioxidants. It contains conjugated linoleic acid (CLA), carotenoids (like β -carotene),

coenzyme Q, vitamins A and E, sulphur-containing amino acids, and enzymes such as superoxide dismutase, catalase and glutathione peroxidase. Besides, the milk is rich in exosomes from the mammary gland. The key contents of milk exosomes are structural (actin and tubulin), functional (enzymes), signaling (TGF-beta, heat shock protein) and membrane (CD9, CD63, CD81) proteins, specific phospholipids (phosphatidylcholine, phosphatidylethanolamine, phosphatidylserine, and phosphatidylinositol), ribonucleic acids, coding (mRNAs) and noncoding (ncRNAs) RNAs (miRNAs, lncRNAs, circRNAs), which resist digestive enzymes of the recipients and can engage in direct communication with intestinal cells and immune system development. Exosomes are also chosen for next generation drug delivery.

In spite of its richness, the milk is not a complete food since it is deficient in Fiber, Iron, Vit B5 (Pantothenic acid), Vits C and D. Hence, fortification with Vit D, Milk Fat Globule Membrane (MFGM)s are done in dairy.

Fermented milk products like yogurt are rich in lactobacillus that interacts with gut microbes.

How drinking milk helps Brain health?

Human brain is an assembly of hundred billions (10^{11}) of neurons and 2-7 times more of glial cells; astrocytes that form tripartite synapses in the cerebral cortex, oligodendroglia that forms myelin sheath and microglia, the resident macrophages of the brain.

Structural development and maturation and maintenance of neuronal, astrocytic and oligodendroglial cell health require important nutrients present in the milk that includes phospholipids, cholesterol, essential fatty acids, proteins with essential amino acids. Phospholipids and miRNAs, derived from milk EVs and phospholipids of Milk Fat Globule Membrane (MFGMs) are engaged in synaptogenesis and glial cell synthesis. Milk derived important growth factor is insulin-like growth factor (IGF).

Functionality of individual neurons and as 'connectome' requires minerals like sodium, calcium, potassium, all present in milk. Functional connections between the gut nervous system,

central nervous system and the gut microbiome require constituents present in the milk.

Several neurotransmitters are formed from milk-constituents. Serotonin is synthesized from tryptophan in milk, dopamine and norepinephrine from tyrosine. Calcium in milk helps brain cells convert tryptophan into serotonin. Probiotic bacteria in fermented dairy products can synthesize these neurotransmitters and also GABA.

Most of the hormones, especially protein hormones in the milk are broken down by digestive enzymes. However, the relation between milk consumption and the prepubertal somatotrophic axis still remains in controversy.

Antioxidants present in the milk, as mentioned, protect neurons and glial cells from oxidative stress.

miRNAs derived from milk EVs have been reported in the maturation of immune cells and regulation of immune response.

Psychic Health

Brain and psyche are not synonymous. So, are psychic health and brain health? What is Psyche? There is no simple answer for this question in science! It is mind! It is 'self'! It is the inner 'life' (science does not use the word 'soul')! It is an information processing system of the brain! Finally, we dump the 'psyche' as consciousness! Psyche is consciousness!

Above kind of response continued till 2016 when the present author published a paper on the System Psyche. System Psyche is scale invariant, meaning it is true for a single cell, multicellular organisms, and human beings and also applicable in the scale of cosmology, the universe and the multiverse provided the system is a living entity. The concept of systems had been developed further over several years.

Consciousness is the President of the system psyche. Other governing board members are 'self', 'life', mind, and information. All members including the President are non-observable but influential. They are nonlocal, meaning they cannot be localized in space and time. The system psyche operates from a domain beyond the quantum void and zero-point energy field of material nature. Their hierarchical phase positions are understandable when we go through the concept of nested hierarchy of nature

from the nest I on the surface to the nest V at the deepest.

Leaving aside their ontological nature, all of the five psychic faculties are easily identifiable epistemologically by their respective signature. The signature of consciousness is in its ability to make a “will”/ “won’t”. The ‘self’ leaves its signature by creating a sense of ‘i’, ‘me’ and ‘mine’ in the system, with an ability to distinguish the whole from its parts. The ‘life’ makes its presence felt by creating qualia, feeling and memory. The mind marks its activity by converting a signal into a piece of information and vice versa.

Homeostasis of the psyche in its information management mission is primarily a signature operation of “life”. Failure of uncertainty-certainty homeostasis results in anxiety. Failure of symmetry-breaking and symmetry-making homeostasis results in stress and the failure of tangible and intangible energy homeostasis results in depression. In such conditions the whole psyche suffers. The mind suffers from anxiety, the life from stress and the self from depression. Consciousness from its transcendental position, as a ground without any background, intervenes as the president immanent in a manner appropriate for recovery of its board members from the sufferings.

Milk and Psychic wellbeing

Dairy milk consumption is reported to be associated with better mental health. UK Biobank studies of over 350,000 people show lower rates of depression and anxiety in semi-skimmed cow’s milk drinkers compared to non-dairy, plant-based milk consumers. This is simply an association without any causal link. Another study shows that dairy consumption is inversely associated with depression and social anxiety. In children and adolescents, milk drinking is suggested to improve negative mood. Studies suggest higher calcium intake in drinking milk is connected to this low perceived anxiety and stress. Calcium has a role in serotonin production. B vitamins are crucial for energy and neurotransmitter functions.

Supplementation of milk fat globule membrane (MFGM) reduces neuroinflammation and supports neurotransmitter synthesis through the gut–brain axis and therefore improves mental health.

Connecting Factors between the Brain and the Psyche

How does the brain connect with the psyche or the psyche connects with the brain? Not known! Theories are yet to pass rigorous peer review! There is no evidence that the brain is the source of consciousness or mind. However, the whole research industry of neuroscience is peddling on this line. Several scientists are aspirants of Nobel Prize on this issue. The present author has conceptually turned the issue upside down since 1985 stating that the brain is not the source of consciousness. A number of evidence has accumulated in favor. The brain cannot even use consciousness. It is consciousness which uses the brain for its manifestation in behavior. In this connection, two groups of performers play. The psychic operators as mentioned above. However, what makes the brain “home” for the psychic faculty is a group of five information-states; digitized signal, non-digitized information, specific symmetry of assembled information, information manifold, and information crystal. This happens not by means of any resonance (resonance happens between signals) but by means of cascading consummation of information states of the brain into the pre-existing ground consciousness through successive operations by mind, self, life and operative consciousness. That is another big story!

When we repeatedly miss the correct information from our bodies and also the correct information either on milk or on the environment, we are most likely not mentally well. Along with drinking milk, have a check on the quality content of information the mind is processing and the brain is manifesting in behavior, is essential for enjoying quality mental health.

Website: <http://www.akmukhopadhyayconsciousness.com>



Future Prospects for Marketing Indian Traditional Milk Products and Functional Foods



Dr. KSMS Raghavarao

Department of Chemical Engineering
Indian Institute of Technology, Tirupati

Indian traditional milk products—such as ghee, yogurt, paneer, lassi, and other milk-based preparations—are deeply rooted in the nation’s cultural and dietary heritage. Their health-promoting attributes, established through centuries-old practices, align closely with the growing global interest in functional foods. With rising health consciousness and an increasing demand for natural, nutrient-rich options, these products present significant competitive potential in both domestic and international markets.

The functional dairy segment is projected to expand substantially, driven by increasing health awareness, rapid urbanization, and global interest in Ayurveda and holistic wellness. Products such as probiotic yogurt, fortified milk, and A2 milk are gaining widespread acceptance due to their demonstrated health benefits. These offerings address critical health concerns such as digestive health, immune function, and nutrient deficiencies—particularly relevant in urban populations, where an estimated 70% experience digestive disorders. Furthermore, lifestyle-induced stress is contributing to the prevalence of gastrointestinal conditions, underscoring the relevance of functional dairy interventions.

As the world’s largest milk producer, India possesses considerable potential for innovation in dairy-based functional foods. The country’s rich legacy of traditional foods and Ayurveda-inspired practices provides a unique foundation for positioning such products in both domestic and global markets. In the post-pandemic context, there has been a marked increase in consumer demand for immune-boosting and holistic dairy-based health foods, including probiotics. The Food Safety

and Standards Authority of India (FSSAI) is actively streamlining regulations related to nutraceuticals and functional foods, thereby enhancing consumer confidence. Additionally, government initiatives supporting Ayush (Ayurveda, Yoga, Unani, Siddha, and Homeopathy) and traditional medicine have further strengthened the credibility and acceptance of Indian-origin functional ingredients.

A critical requirement is bridging the gap between traditional knowledge and contemporary scientific validation, coupled with effectively communicating the evidence-based health benefits of functional foods to diverse consumer groups.

The fortified dairy products market is projected to grow from USD 5.81 billion in 2024 to USD 10.5 billion by 2033 (CAGR H” 6.8%) [1]. In parallel, the Indian dairy market overall is expected to nearly double, from USD 125 billion in 2023 to USD 228 billion by 2030 (CAGR H” 9%). Despite these prospects, the sector continues to face structural challenges, including an estimated 20–25% post-harvest loss caused by inadequate cold-chain infrastructure, high fragmentation among small-scale producers, and persistent concerns regarding standardization, adulteration, and regulatory compliance. These limitations constrain both domestic growth and export competitiveness.

Strategic branding, product innovation, investment in cold-chain logistics, and stronger institutional collaborations represent key pathways for transforming India’s traditional dairy sector into a globally competitive functional food industry. Such a transition not only represents a significant economic opportunity but also offers India the potential to establish itself as a global leader in health-oriented dairy innovations.



Effect of Food on Consciousness: Scientific and Vedantic Perspectives



Varun Agarwal
(H. H. Bhaktisvarupa Vrajendra Swami)
(Alumnus, IIT Kanpur)
Director, Bhaktivedanta Institute, Kolkata, India
&



K. Vasudeva Rao
(H. H. Bhaktisvarupa Vrajapati Swami)
(Alumnus, IIT Kanpur)
President, Bhaktivedanta Institute, Kolkata, India

“You are what you eat” is a widely recognized concept suggesting that food we eat has direct consequence to our physical and mental health because every cell in our body is made from what we consume. It has also been long known in our ancient Indian tradition that the kind of food we eat has effect on our mind and our consciousness. Interestingly recent research in the gut-brain axis, food and mood, nutritional psychiatry and other similar research areas have brought forth the effect of food on mental health and thus has once again brought forth to limelight the ancient wisdom. Diets rich in plant-based, unprocessed foods have been linked to enhanced mental clarity, emotional stability, and overall well-being, while excessive consumption of processed or stimulant-rich foods correlates with anxiety, fatigue, and cognitive decline.

While modern science does not distinguish between brain, mind and consciousness, ancient Indian Vedic wisdom distinguishes them. From a Vedic perspective, food is considered more than a source of physical nourishment; it directly influences the mind (*manas*), intellect (*buddhi*), and consciousness (*chitta*). Texts such as the *Bhagavad Gita* classify food according to the three *gunas*—*sattva* (purity and harmony), *rajas* (passion and restlessness), and *tamas* (inertia and ignorance)—suggesting that diet shapes mental states, emotional balance, and spiritual awareness. A proper mood and consciousness can be cultivated through the understanding of interconnection between food, brain, mind, consciousness and our eternal quest to be happy.

The speakers in this joint lecture will share the latest research and developments in this area and also bring forth some selected wisdom from ancient Indian traditions about the relevance of food on our brain, mind and consciousness.



Milk and Food in Indian Knowledge Systems



Prof. Vaidya Kartar Singh Dhiman
Vice Chancellor, Shri Krishna Ayush University
Kurukshetra

Food and consciousness have a directly proportional relation to happy and healthy living;

“Yatha anna tatha mana” is experiential and time listed testimony of this concept in Indian culture. So far as the functional food concept is concerned, Ayurveda the art and science of life, emphasize Aahar (food) as Aushadh (medicine);

“Aharah Param aushadham” Food is the supreme medicine.

The physician who heals by transforming Aahar (food) is indeed the best, for he empowers the patient to sustain health naturally.

Functional food concept maybe new to the world but is inbuilt in this noble health science (Ayurveda). Ayurveda recognises them as foods that go beyond basic nutrition influencing health, mind and spirit.

As mentioned in Ayurvedic literature some examples could be illustrated as-

- Ghee (clarified butter): Rich in healthy fats and fat-soluble vitamins; supports brain function, memory, and nervous system health.
- Honey: A natural bio-enhancer; has antioxidant, antimicrobial, and metabolic-regulating properties.
- Buttermilk: A probiotic-rich drink; improves digestion, gut microbiota, and nutrient absorption.

Likewise functional foods, Ayurveda is varied in its nutraceuticals approach as well. These are closer to Aushadhi(medicine) and are prepared from Aahardravyas(food). Consumed in dosage form, both nutraceuticals and functional foods promote health and prevent diseases. Some examples of nutraceuticals taken from dairy industry could be-

- Dadhi (yogurt) mixed with Sita (sugar). As per Bhav Prakash, Dadhi is to be avoided during grishma Ritu (Summer), but due to lack of awareness, the demand of dadhi increases during summer. If we mix dadhi with sugar, then it will reduce pitta, daha and Trishna.
- Santanika (cream) with sharkara (sugar). Helps in pacifying tridosh and improves quality and quantity of semen. So, useful in cases of oligospermia and azoospermia.
- Dadhimastu (supernatant liquid portion of curd). It removes tiredness, decreases thirst and increases strength. can be taken as energy drink. also recommended as Bhaktabhilashakrit (causes desire to eat)- appetizer.

Milk in its varied forms holds a central place in Ayurvedic nutrition, not only for physical sustenance but also for mental clarity and spiritual growth.

References to Gorasavarga (milk and its products) are found extensively across Ayurvedic classics. Ayurveda differentiates types of milk based on source animals, each having unique guna (qualities), virya (potency) and karma (effects).

· Cow's milk- naturally sweet and cooling is rich in high quality protein calcium and bioactive peptides. It enhances immunity brain function and vitality.

- Buffalo's milk- dense and high in fat induces sleep beneficial in acidity bleeding disorders.
- Goats milk- light, useful in diarrhoea and hypoallergenic
- Sheep's milk- very nourishing and good for emaciated individuals
- Camel's milk- bitter and pungent in taste. Improves lipid metabolism, regulates blood sugar.

Thus, Ayurveda provides a therapeutic spectrum of milk showing that milk is not one food but many foods.

Ayurveda has a very unique and holistic view of metabolism (aahar paka) and nutrition compared to modern science. Nutrition is not what you eat, but what you digest and assimilate. The metabolic fire (Agni) governs this metabolism, transforming food into tissues, vitality and even consciousness. A balanced digestive fire (Agni) leads to proper digestion, nutrient assimilation, strong immunity and sattva dominant mind. Likewise, a weak or irregular Agni leads to formation of toxins which further become cause of various morbidity.

How milk and functional foods affect consciousness

Satva Raja Tama with Chetna (Atma) factor is the base of universal origin; further derive body and consciousness along with senses.

All universal matters including food is considered to have developed from five gross elements. These five basic elements in body act as three energies(humors) which act as functional regulators.

- Vata: Aakash and Vayu; movement, transmission
- Pitta: Agni and Vayu; metabolism
- Kapha: Jala and Prithvi; anabolism.

Ingested panchbhautik food is disintegrated to its micro contents there by altering or adding to the basic body humors (energies) as per constitution. Atwo- way balance process goes on, i.e. increasing similar and decreasing the opposite.

Mana and Indriya, the cognitive constituting factors of life are nourished by Satva Raja and Tama attributes of ingested food which emerges on further disintegration of nutrients out of Panchbhautik food.

Thus, the universe and our body mind complex arise from the inseparable union of consciousness qualities(Triguna)and material elements (Mahabhuta).

Food items of satvik qualities will thus nourish senses (Indriya) and mind (Mana) after its micro level digestion.

Take away message

Milk and functional foods are Ayurveda's natural nutraceuticals which not only sustain the body but also refine consciousness promoting Satva, balancing Rajas and minimizing Tamas -thereby harmonizing the Triguna- Panchmahabhuta framework of our existence.



Healing of the Nervous System for Mental Health: An Ayurvedic Perspective



Dr. Rajesh Aggarwal

HOD, Computer Science Department
NIT, Kurukshetra

According to **Ayurveda**, the human body is built from **seven fundamental tissues (dhatus)**, which are formed from the **five Mahabhutas** – Earth (*Prithvi*), Water (*Jal*), Fire (*Agni*), Air (*Vayu*), and Ether (*Akasha*).

The seven dhatus are:

1. **Rasa Dhatu** – Nutrient plasma or bodily fluids
2. **Rakta Dhatu** – Blood
3. **Mamsa Dhatu** – Muscle, flesh, and ligaments
4. **Meda Dhatu** – Fat or adipose tissue
5. **Asthi Dhatu** – Bones and cartilage
6. **Majja Dhatu** – Bone marrow and the nervous system
7. **Shukra Dhatu** – Reproductive tissue (semen/ova)

The first five dhatus provide the physical structure and strength of the body, while **Majja** and **Shukra Dhatu** play a crucial role in mental, emotional, and reproductive health.

Majja Dhatu and Mental Health

Majja Dhatu represents the **nervous system**, including the brain, spinal cord, peripheral nerves and bone marrow. Its health is essential for:

- **Cognition and memory**
- **Confidence and emotional balance**
- **Concentration and comprehension**
- **Neuromuscular coordination**
- **Sense of completeness and fulfillment**

When **Majja Dhatu** is **healthy**, there is mental clarity, peace and a sense of fullness.

When it is **deficient or disturbed**, symptoms may include:

- Poor communication or lack of understanding

- Neurological disorders (e.g., Alzheimer's, neuropathies)
- Insomnia and anxiety
- Neuromuscular dystrophy
- Cerebral palsy and tremors
- Feeling of emptiness or hollowness

Assessing the Health of Majja Dhatu

While the nerves are not directly visible, their health can be inferred by:

- **Neurological tests** (modern medicine)
- **Ayurvedic observation**, such as:
 - Quality and quantity of eye discharge in the morning
 - Brightness and clarity of the sclera
 - Luminosity of the eyes and facial glow
 - Strength and stability of the mind

Sequential Nourishment of Dhatus

Ayurveda describes a **sequential process of nourishment**, each dhatu is nourished from the previous one, like milk gradually transforming into curd, butter, and ghee.

Any disturbance in this chain affects all subsequent dhatus. For example, poor digestion or weak **Rasa Dhatu** can ultimately result in poor nourishment of **Majja Dhatu**.

Role of Agni in Dhatu formation

The transformation of food into dhatus depends on **Agni** (metabolic fire). Properly digested food becomes **Ahara Rasa** (nutritive fluid), which is sequentially converted into **Rasa** '! **Rakta** '! **Mamsa** '! **Meda** '! **Asthi** '! **Majja** '! **Shukra**.

Thus, a **healthy Agni** is the foundation for strong **Majja Dhatu** and robust mental health.

Ayurvedic Guidelines for Strengthening MajjaDhatu

1. Dietary Recommendations

To nourish Majja Dhatu, Ayurveda recommends foods that are unctuous, grounding, and rich in healthy fats:

- **Ghee** – Clarified butter is considered one of the best tonics for the brain and nerves.
- **Whole milk** – Warm, easily digestible milk (preferably A2 cow milk) supports Majja nourishment.
- **Nuts and seeds** – Soaked almonds, walnuts, sesame seeds, flax seeds.
- **Healthy oils** – Cold-pressed sesame oil, almond oil, and olive oil (in moderation).
- **Green leafy vegetables** – Provide micronutrients for nerve health.
- **Sweet fruits** – Ripe mangoes, dates, figs, raisins (support Shukra and indirectly Majja).
- **Grains** – Wheat, rice, oats (easily digestible and grounding).
- **Spices** – Mild spices like turmeric, cumin, fennel, and saffron to keep Agni balanced.

Avoid: Excessive stimulants (tea, coffee), processed foods, very dry or spicy food, irregular eating patterns and fasting beyond capacity, as these deplete MajjaDhatu.

2. Medhya Rasayanas (Nervine Herbs)

Ayurveda describes a class of herbs called **Medhya Rasayana**, which specifically enhance memory, intelligence and nervous system strength:

- **Brahmi (Bacopa monnieri)** – Improves memory, focus and reduces anxiety.
- **Shankhpushpi (Convolvulus pluricaulis)** – Calms the mind, supports restful sleep.
- **Ashwagandha (Withania somnifera)** – A powerful adaptogen, strengthens nerves, reduces stress.
- **Jyotishmati (Celastrus paniculatus)** – Known as “intellect tree,” improves mental clarity.
- **Guduchi (Tinospora cordifolia)** – Balances all three doshas, supports immune and mental health.
- **Vacha (Acorus calamus)** – Enhances

speech, memory, and intellect (use under guidance).

These can be taken as decoctions, powders (*churna*) or medicated ghee formulations (e.g., **Brahmi Ghrita**).

3. Lifestyle Practices

- **Abhyanga (Oil Massage)**: Daily warm oil massage (sesame oil or medicated oils like *MahanarayanTaila*) strengthens nerves and calms Vata.
- **Shirodhara**: Pouring warm medicated oil over the forehead is deeply relaxing for the nervous system.
- **Regular Sleep Routine**: Early to bed, early to rise; avoid overstimulation before sleep.
- **Meditation & Pranayama**: Practices like *NadiShodhana* (alternate nostril breathing) and *Bhramari* (humming breath) calm the mind and nourish Majja Dhatu.
- **Mental Diet**: Avoid excessive sensory overload (too much screen time, disturbing media).

4. Balancing Doshas

Most nervous system issues are linked to **Vata imbalance** (excess air and ether elements). Hence, focus on:

- Warm, cooked, and unctuous foods
- Regular daily routine (*dinacharya*)
- Stress management and grounding practices

Kapha Dosha vitiation results in excessive tissue formation though it is of low quality. Majja dhatu (nervous system) becomes denser and thicker resulting in slowing down (or blocking) the movement of nerves impulses. When Pitta Dosha increases, the tissue formed becomes overly heated and prone to inflammation. This may result in burning out the protective structures surrounding and within the nerves (known as Myelin). Deterioration of the Myelin sheath as occurs in multiple sclerosis and post viral syndromes are examples. Within the brain, neurological structures may burn out as well. This occurs in some cases of Parkinson’s disease and dementia.

For more info.: e-mail : rka15969@gmail.com





Speaker's Biographies

Dr. Dheer Singh

Dr. Dheer Singh is Director & Vice-Chancellor of ICAR-National Dairy Research Institute (ICAR-NDRI), Karnal. He has over three decades of contributions to Dairy science, Animal biochemistry and biotechnology. Being a biochemist, his excellent work on gene regulation, epigenetics, microRNAs, exosomes, and nano biosensors has produced more than 110 international publications and invited presentations. A Fellow of Indian National Science Academy (INSA), National Academy of Agricultural Science (NAAS), National Academy of Science India (NASI), and National Academy of Dairy Sciences (NADS), and recipient of prestigious awards including the ISSRF Lifetime Achievement Award, he has also advanced Indian agriculture and dairy science through international collaborations, such as Indo-German projects, BOYSCAST Fellow at the University of South Carolina and a visiting scholar at Stanford University. As a mentor to over 40 postgraduate students and a leader in modern agricultural education and farmer outreach, he has impacted farmers nationwide. Under his leadership, ICAR-NDRI achieved milestones such as India's first cloned indigenous cow and a gene-edited buffalo calf.

Varun Agarwal (H. H. Bhaktisvarupa Vrajendra Swami)

Varun Agarwal (also known as His Holiness Bhaktisvarupa Vrajendra 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. Seeing new things, he began studying ancient Vedantic wisdom under his guidance, dedicating himself completely for the cause of helping humanity through interface of scientific temper and spiritual wisdom. He is currently the Director of the Bhaktivedanta Institute, Kolkata, India Besides his various involvements, Varun 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*.

K. Vasudeva Rao (H. H. Bhaktisvarupa Vrajapati Swami)

K. 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 contribute significantly himself to 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 himself delivered hundreds of talks on 'science and spirituality', 'computation and *Bhagavadgita*' and others. More than 10 national conferences, 2 International conferences, over 200 papers and over 100 seminars and workshops have been organized by the Institute in past decade which includes contributions from more than 20 Nobel Laureates and world-renowned scholars.

Dr. KSMS Raghavarao

Dr. Raghava rao, basically a Chemical Engineer specialized in Food Engineering and Biotechnology, has taken charge as Director, CSIR-CFTRI. He obtained B.Tech from Andhra University (1981) and direct Ph.D. from ICT, Mumbai (formerly UDCT) in 1987. After post-doctoral at NIST Colorado and a brief stay at NIT, Warangal, he joined CFTRI in 1990 and continuing till date. Dr. Raghavarao has over 25 years of experience with right combination of Applied and Basic research. Out of 30 significant achievements, 25 were converted into processes/technologies, out of which 15 were transferred to Industry. Phycocyanin from *Spirulina* is second highest technology premium at CFTRI. Whole coconut milk powder transferred to 4 industries. Virgin Coconut Oil (VCO) technology transferred to about 60 industries. Dr. Raghavarao has guided 20 students/fellow scientists for Ph.D. in Food Engineering/ Biotechnology and currently guiding 5 at the moment. He has been recipient of prestigious NASI-Reliance and VASVIK awards for applied research. He has received 2 out of 4 prestigious National Fellowships of Academies (FNAE & FASc, Bangalore) besides several others (FNAAS, FAFST, FAPASc, FIE). He has received National Award for technology transfer by Ministry of Agriculture for Virgin Coconut Oil technology. He has over 160 publications (with 'h' index of 45) and citations over 6500, about 28 International patents and 55 Indian patents. He initiated several new research areas at CFTRI such as Aqueous Two Phase Extraction, Reverse Micellar Extraction, Adsorption, Bioreactor design for Hairy root and plant cell cultures, viscous fermentation (microbial polysaccharides), and for solid state fermentation besides food processing equipment especially for Indian Traditional Foods athermal membrane processes like direct osmosis and osmotic membrane distillation. He collaborated with several technology departments across CFTRI and outside institutions as PI/Co-PI in 50 grant-in-aid projects and 25 Industrially sponsored projects.

Dr. A. K. Mukhopadhyay

Professor Ashok Kumar Mukhopadhyay is a student of consciousness, to which he reports for all doubt clearance. Born in 1953, he is a medical graduate (MBBS) from the University of Calcutta (1977), a postgraduate (MD) in Pathology (1981) from India's premier medical institute, AIIMS at Delhi, where he served for almost 40 years tendering medical laboratory service to patients, evidence- based academic service to MBBS, MD and PhD students and serving science by means of research and publications.

In India he is honored as "The father of the Laboratory Medicine discipline". Internationally he is known as "Dr. Mukho", and this name is inextricably connected with consciousness. Browsing through this website, you will discover in one person, an empirical scientist, an innovator of ideas, a concept-builder, a hypothesis-generator, a silent Worldview reformer, and a catalyst for researchers. Like a biological cell, his approach is ideology-neutral, solution-centric, holistic and systematic.

From the TOP, his starting point in 1985 had been the coining of the term and concept of supracortical consciousness and from the BOTTOM, getting established the Department of Laboratory Medicine, financially and administratively independent of the Departments of Pathology, Biochemistry and Microbiology at AIIMS in 1988 and introducing new medical postgraduate degree courses (MD and PhD) subsequently. He laid down the skills as expected from a laboratory physician having a degree of MD in laboratory Medicine. He pursued the established MD course in Laboratory Medicine to get recognized by

the Medical Council of India in its PG Regulation and finally approved by Government of India, thus making the discipline and the postgraduate course relevant nationally and globally, See the Academic Business Analysis of the Course. Watch a 2023 video clip on the Smart Lab of the Dept. of Laboratory Medicine. Bangladesh as a nation, followed the model established at AIIMS. Following simultaneous persuasion of Top-Down and Bottom-Up approach in the scientific construction, he develops within the ambit of Systems Science, the Pentaune Model of Nature-Consciousness, Science of Information with different Information states, Ladder of Cognition, Model of System Psyche (Cognitive Orchestra) with its structure, operations and possible molecular links, Science of Zero-Point Energy State/Fluctuation, Matter-Correlates of Consciousness, Brain-Consciousness Relationship, Science of Divinity, and in the energy ecosystem the Riddles of Matter-sourced Conventional Energy, Information-sourced Dark Energy and Consciousness-sourced Subtle Energy with their relationship with metabolome, proteome, genome and epigenome. In the Science of Consciousness, he started his Journey in 1985 with the disruptive Idea of Supracortical Consciousness. Throughout the academic career he has continued publications of the provocative, disruptive and constructive Ideas, more so following his superannuation from AIIMS, Delhi. The brilliant one is on AI, how to humanize this Humanoid. You are requested to visit the Books-page, and the Latest Papers Page of this website. A complete Curriculum Vitae is also available.

Prof. Vaidya Kartar Singh Dhiman

Prof. Vaidya Kartar Singh Dhiman assumed the charge of Director General for Central Council for Research in Ayurvedic Sciences, under Ministry of AYUSH, with effect from 9th March, 2015. He is a highly accomplished Academician, Ayurvedic Practitioner, Researcher and Administrator with a distinguished career spanning over two and half decades in reputed Ayurvedic Organizations like IPGT&RA, Gujarat Ayurved University, Jamnagar and also holds the additional charge of the post of Director General, Central Council for Research in Unani Medicine from 01.02.2017 to 31.7.2017. Prof. Vaidya K. S. Dhiman holds a Ph.D. in Ayurveda (Shalakya) from SSU Varanasi and MD, Ayurveda (Shalakya) from Gujarat Ayurveda University, Jamnagar, Gujarat, India. His specialized field of Research is Ayurvedic Ophthalmology. He is having proven record of scientific contribution with sufficient published work in his credit. He is also the authors of five books and had authored many research bulletins, technical reports, course materials and monographs. Under his guidance, 9 students have received Ph.D degree and more than 25 students received degree of MS (Ay.) Shalakya. He is also life member of different professional scientific societies like TAS – India, RAP and NIMA. Prof. Vaidya K. S. Dhiman is Chief Editor/Editor/Editorial Board member of different peer reviewed national and international scientific journals. He had opportunity to chair sessions as Chairman/Co-Chairman of many National and International Conferences/Workshops/Seminars and presented more than 83 research papers in various National and International Conferences/Seminars. He is a member in various prestigious professional bodies in Universities, associations and expert Committees. Prof. Vaidya K. S. Dhiman visited Milan, Italy to deliver a keynote address in the First International Congress of Ayurvedic Medicine and also represented Ministry of AYUSH, Govt. of India in Sweden and Latvia for participating in the Ayurveda event organized by the Mission in Stockholm, Sweden and Ayurveda Conference in Latvia and visited Germany as a member of the delegation led by Hon'ble MoS(IC), Ministry of AYUSH for participating in the 2nd European World Ayurveda Congress at Koblenz Germany. Since his joining this Council as Director General, he putting his best in furtherance of the objectives of the Council, which is an apex body in India for formulation, co-ordination, development and promotion of research in Ayurveda on scientific lines. In the last three decades this premier research organization has immensely contributed in areas of medicinal plants research, drug development, literary research and clinical research in Ayurveda especially new drug development for emerging health challenges. The outcomes are now in commercial domain for public health care delivery.



About *Bhaktivedanta Institute*



The Bhaktivedanta Institute was founded by His Divine Grace A. C. Bhaktivedānta Swami Prabhupāda in Vrīndavan 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 Swamī) 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:

The Bhaktivedanta Institute,
RC-8, Raghunathpur,
Manasi Manjil Building, Fourth Floor
VTP Road, Kolkata 700 059, India
Tel: +91-33-2500-9018
email: bi@binstitute.org
website: www.binstitute.org, <http://store.binstitute.org/>



Appreciations by past events' participants

The way every lecture was presented, strong arguments were given to prove their points and they really widen my thinking.

– Prajwali Praveen Khirid

I liked how you connected spirituality to science and explained it very clearly and scientifically.

– Anitha Mandala

These kind of arrangement for delivering value education even at this pandemic influence where people are so much in depression and exhaustion being unable to be free to communicate properly outside. I am very much impressed with the beautiful arrangement made by BHAKTIVEDANTA INSTITUTE who worked so hard by themselves for the welfare of everyone. Thank you.

– Brajalika Devi

What was most amazing was that everyone, in their own way has to the best of their ability tried to expand, explain the existing facts and give a theory to what may be... And that's the first step to any research. This platform has been a yardstick to measure up against the best in the field, a way to glance at it through a window of safety (i.e. student's life) and prepare for what's expected in the field to come up successful if we step into research.

– Akash Dilip Tejwani

I liked the in depth knowledge and dedication of each of the teachers for their research.

– Siddharth Panwar

I really loved the explanation of Vedic perspective and why Science can't explain origin of life. Especially the session by Prof. Wickramsinghe and Prof Tour.

– Ravi Garg



AN OUTSTANDING

तत्त्वज्ञानसा

SCIENCE & SPIRITUALITY MAGAZINE

TATTVAJIJNĀSĀ – Scientific and Spiritual Quest for Ultimate Reality

TATTVAJIJNĀSĀ – Scientific and Spiritual Quest for Ultimate Reality is one of the most premier magazine where articles and dialogues with renowned scholars from around the world on the interface of science and spirituality are published. Some of its highlights are:



- ✓ Articles/dialogues with 2 Nobel Laureates, and special articles on founders of science and mathematics
- ✓ Covers a wide range of disciplines from physics to cosmology, origin of life, evolutionary biology, and foundations of mathematics, among others
- ✓ Expert and renowned editorial and advisory board members
- ✓ Published 3 volumes containing 18 contributors

AVAILABLE NOW!

Available at:

store.binstitute.org
www.binstitute.org

Write to us:
bi@binstitute.org | +91 9330010816

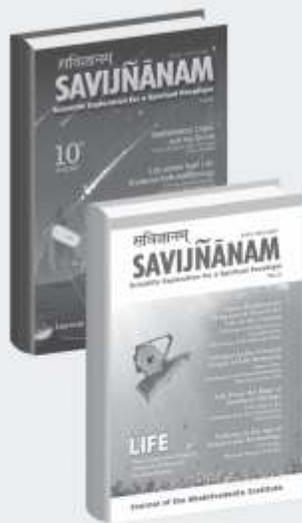


A LEADING

सविज्ञानम्

SCIENCE & SPIRITUALITY JOURNAL

SAVIJNANAM – Scientific Exploration for a Spiritual Paradigm



SAVIJNANAM – Scientific Exploration for a Spiritual Paradigm is one of the most premier journals where articles and dialogues with renowned scholars from around the world on the interface of science and spirituality are published. Some of its highlights are:

- ✓ Articles/dialogues with 8 Nobel Laureates, 2 Templeton Laureates and 1 Fields Medalist
- ✓ Covers a wide range of disciplines from physics to cosmology, origin of life, evolutionary biology, and foundations of mathematics, among others
- ✓ Expert and renowned editorial and advisory board members
- ✓ Published 11 volumes containing 28 contributors

Available at:

SUBSCRIBE TODAY!

store.binstitute.org
www.binstitute.org

Write to us:
bi@binstitute.org | +91 9330010816

With Best Compliments from

CELEBRATING 75 YEARS OF EXCELLENCE



**AN ISO 22000-2018 and
(FSSC) 22000
Certified company**

**PUREST
COW
GHEE
EVER**



LAB TESTED



100% PURE



NO ADDED COLORS



NO ADDED FLAVORS



SINCE 1950

With Best Compliments from



Jagdish Chandra Arya

President

- Arya Senior Secondary School, Gharaunda
- The Gurukul, Nilokheri
- The Gurukul, Jyotisar
- Aryagurukulam, Nilokheri



With Best Compliments from

Genesis

सर्वश्रेष्ठ शिक्षा, सच्चे परिणाम

NEET | JEE-MAIN | JEE-ADVANCED | CUET | NDA | OLYMPIAD

GENESIS CHAMPIONS!

JEE Adv. Result 2025

48+ STUDENTS QUALIFIED



NEET (UG) Result 2025

7 600+ STUDENTS

38 550+ STUDENTS

84 525+ STUDENTS



Awarded by Hon'ble CM of Haryana
Sh. Nayab Singh Saini

NEET SCORE
674
720

AIIMS DELHI
ARSH GANDHI



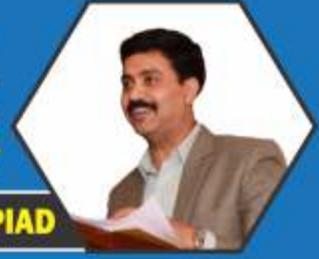
Cor.Off. : SCF 58-59, Near Punjab National Bank, Sec-6, Main Market, Karnal | M. : 8199938407, 9254038478

☛ Kaithal- 9253068407 ☛ Kurukshetra - 8571938407 ☛ Panipat - 9215338407 ☛ Shamli - 9306147655 ☛ Moradabad - 9817738407

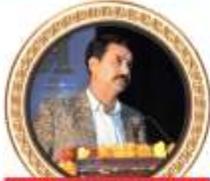
With Best Compliments from



शिक्षा के क्षेत्र में 25 सालों से अटोमे का नाम
SANKHALA
CLASSES™ (8th to 12th)



CBSE | IIT-JEE | NEET | NDA | FOUNDATION | OLYMPIAD



S.L. SANKHALA
Managing Director

प्रिय अभिभावक

आपके करनाल शहर में साँखला क्लासेज सन् 1999 से संचालित है। जो शिक्षा के क्षेत्र में अग्रणी भूमिका निभा रहा है। साँखला क्लासेज आठवीं से बारहवीं कक्षाओं के बच्चों की मजबूत नींव तैयार करता है। जिसकी बदौलत आज साँखला क्लासेज के बच्चे अलग-अलग क्षेत्रों में उन्नति हासिल कर रहे हैं। इस संस्थान से पढ़े हुए बच्चे उच्च सरकारी तथा गैर-सरकारी पदों पर सेवाएं दे रहे हैं। साँखला क्लासेज के बच्चों का CBSE Board का रिजल्ट करनाल शहर का सर्वोत्तम रिजल्ट है। विगत सालों में 225 से ज्यादा विद्यार्थियों ने Science व Maths में 90% से ज्यादा अंक प्राप्त किये हैं। साँखला क्लासेज शिक्षा ही नहीं अपितु बच्चों के सर्वांगीण विकास पर भी काम करता है। आज पाश्चात्य शैली के कारण बच्चों अपने मार्ग व संस्कृति से भटक रहे हैं, जो एक अच्छा संकेत नहीं है। बच्चों को पाश्चात्य शैली के नकारात्मक प्रभाव से बचाने के लिए साँखला क्लासेज समय-समय पर विभिन्न धर्मगुरुओं व शिक्षाविदों से वैदिक रीतिनीति से मार्गदर्शन भी करवाता है। ताकि हमारे बच्चे अपनी संस्कृति व संस्कारों के अनुरूप चले व ढले।

IIT-JEE | NEET | FOUNDATION (CBSE) | NDA | OLYMPIAD

Special **BATCH FOR IIT-JEE/NEET FOR DROPPER REPEATER BATCH** **100% SELECTION**

FEATURES OF ACADEMY

Maximum batch strength 20 students

Individual care and attention Academy in Under CCTV Surveillance.

Fully air condition campus Free library facilities

Daily recap and doubt session for 7 days in a week

Disciplined & Safe Environment for Girls

Daily Attendance & Result Report by SMS

HEAD OFFICE:

SCF 25, 26, 27, SEC. 13, MAIN MKT, KARNAL
sankhala.classes@gmail.com

BRANCH OFFICE:

167. NARSI VILL, SEC-32, KARNAL
onlinesankhala.classes@gmail.com

99925-51933, 92535-53955, 96719-27775

With Best Compliments from



BIG DISCOUNT

ALL
ITEMS
AVAILABLE
AT
WHOLESALE
RATE



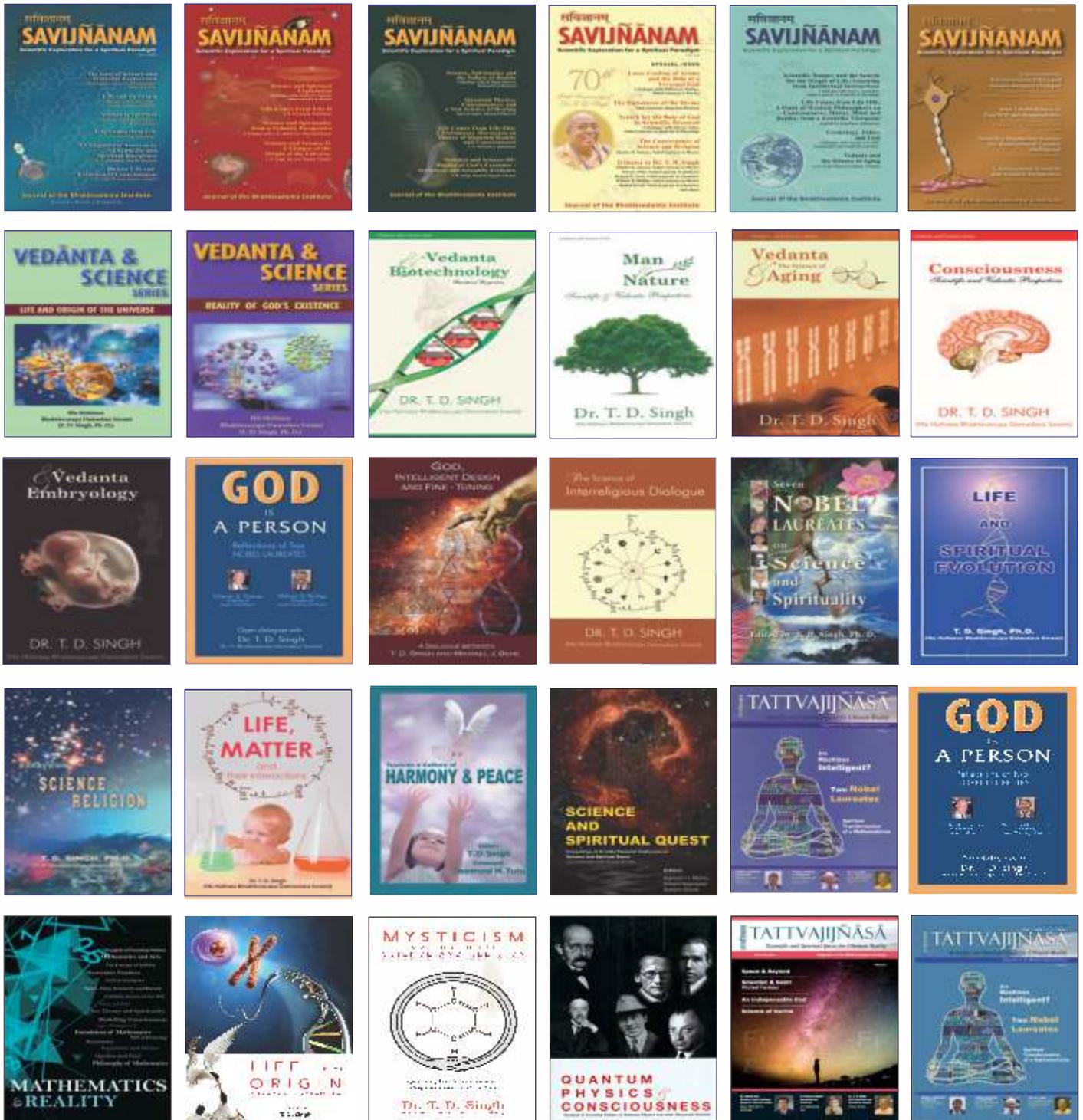
GROCERY | DRY FRUITS | CONFECTIONERY
COSMETICS | PERFUME | APPLIANCES | COOKWARE
CROCKERY | CHIMNEY | GAS STOVES & IMPORTED ITEMS

ALL BRANDS UNDER ONE ROOF



ASHOK NAGAR, MEERUT ROAD, OPP. K.R. CINEMA, KARNAL CONTACT : 92554-94000 | 94168-94000

Bhaktivedanta Institute's Publications



To procure these books, please contact :

BHAKTIVEDANTA INSTITUTE

RC/B, Raghunathpur, 4th Floor, Manasi Manjil Building, VIP Road, Kolkata-700 059

Tel. : +91 33 2500 9018 E-mail : bi@binstitute.org Website : www.binstiute.org

Celebrating 50 YEARS of Bhaktivedanta Institute



Special
Seminars

Lecture Series

Publications

Conferences

Promoting dialogue between
Science and Spirituality since 1974

Selflessly Serving the Society:

Published over 50 books on Science and Spirituality
Organised over 500 lectures, Seminars and Conferences
Reached over 1000 Schools, Colleges & Universities
Helped millions of students & underprivileged children
... & many more

www.binstitute.org | store.binstitute.org |
youtube.com/@BhaktivedantaInstituteMedia



years

Golden Jubilee

1974 - 2024