



# 19<sup>th</sup> INCOFYRA

INTERNATIONAL CONFERENCE ON  
FRONTIERS IN YOGA RESEARCH  
AND ITS' APPLICATIONS

**Theme:**

**YOGA for GLOBAL HEALTH, EDUCATION & PEACE**

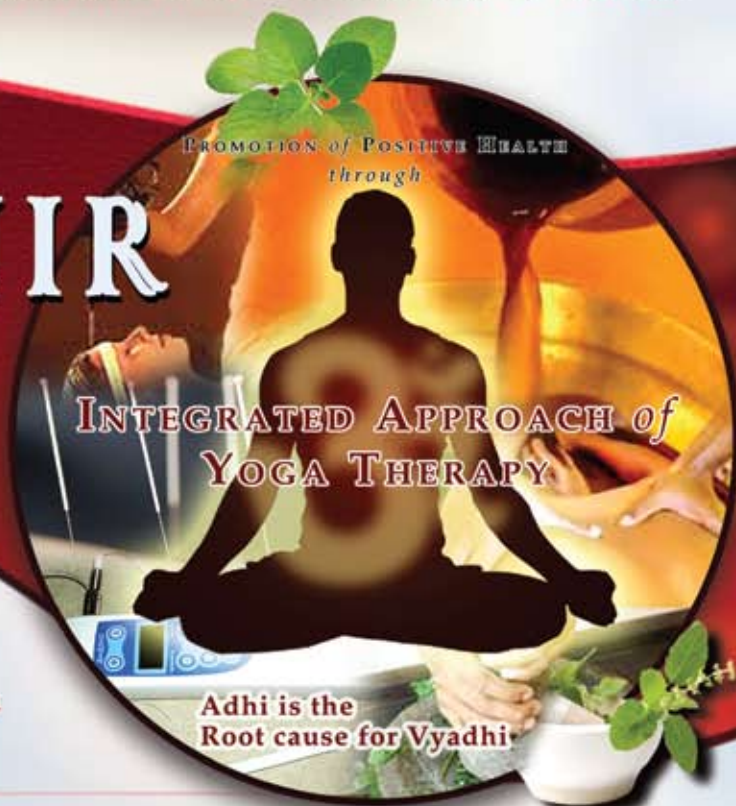
## SOUVENIR

*Venue:*

**Prashanti Kutiram**

the head quarters of

**S-VYASA University, Bengaluru**



PROMOTION of POSITIVE HEALTH  
through

INTEGRATED APPROACH of  
YOGA THERAPY

Adhi is the  
Root cause for Vyadhi

**December 20-23, 2011**

*Organised by*

**VYASA, Bengaluru, India**

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# Conference Organizing Committee

**PRESIDENT:** Dr H R Nagendra

**VICE-PRESIDENT:**

Dr Ramachandra G Bhat, Dr K Subrahmanyam

**SECRETARY:** Sri T Mohan

**JOINT-SECRETARIES:**

Dr Manjunath, Dr Naveen K V

**ORGANISING SECRETARIES:**

Dr Sanjib Patra, Sri Raghavendra Bhat, Sri Shatrughan

**TREASURER:** Sri H R Dayananda Swamy

**INTL. CO-ORDINATOR:** Sri Rama Rao

**INTL. ORGANISERS:**

Prof Alex Hankey, Sri A J Asok Kumar

**SCIENTIFIC COMMITTEE:**

Chairs: Dr Nagarathna R, Dr Shirley Telles

**HIMALAYA:** Sri Rabindra Acharya

**CULTURAL:**

Sri A Subramanian, Sw. Narayanananda

**COURSES:**

Dr Sudhir Deshpande, Dr Balaram Pradhan

**HOSPITALITY:**

Smt Sharada, Smt Mahalaxmi, Kum Geeta,  
Smt Smita Dayananda, Smt Manjula

**PUBLICITY:** Dr Harish, Sri Anil Kumar Gajjala

**PUBLICATIONS:** Sri M S Surendra, Sri Shanmugappa

**PUBLIC RELATIONS:**

Sri Sussant Deb, Sri Rajput

**TRANSPORT, TRAVELS:**

Sri Puttaswamy, Sri Kumara, Sri Kishore

**CITY OFFICE:** Sri Mahadeva, Sri Lokesh H

**EMAIL CORRESPONDENCE:**

Dr Sanjib Patra, Sri Raghavendra Bhat

**WEBSITE MANAGEMENT:**

Sri Bharatheesha P.

**VIDEO:**

Sri Shivaram, Sri Murali, Sri Achet Hegde

# VISION STATEMENT FROM THE PRESIDENT



*My Dear Brothers and Sisters,*

I extend a warm welcome and congratulate all of you for participating in this unique gathering in form of the 19th International Conference in Frontiers in Yoga Research and its Applications from Dec 20th - 23rd, 2011 being organized at S-VYASA, Bengaluru. The theme of this conference is 'Yoga for Global Health, Peace and Education'. This theme has evolved as a result of consequences the world has been facing with regards to health, education and peace.

Remarkable advances in science and technology have provided powerful tools in the fields of diagnosis, surgery and target oriented pharmaceuticals; and has actually taken us away from a natural and healthy living. We are obsessed by the conventional modern medical system for treating lifestyle related disorders, which can be easily treated by mere lifestyle changes and few healthy habits. Modern medicine is promising in managing these disorders but remains far unsuccessful in rendering a cure.

Yoga is an art, a science and philosophy. More practically it is a way of life. The world is afflicted by chronic diseases due to lack of health education and peace in life. Technological advances have made life a rapid process. This rush in the mind creates stress – the basic cause of all the disorders. This conference would address the strategies of achieving

global health through righteous education and a peaceful approach in life.

This conference would witness a blend of traditional yoga literature and modern scientific evidence on yoga as an effective modality in bringing Global health, Peace and Education. Various scientists and philosophers would put together their knowledge, experience and expertise in the field of yoga under three dedicated tracks viz. (1) Yoga for Peace, (2) Holistic Health Care, and (3) Yoga and Education.

Each of these tracks would hold elaborate discussions on the role of yoga in Peace, Health and Education. These three days with dedicated tracks would bring about tremendous transformation in the approach of your life with adequate rational both traditional and scientific.

I welcome you all on behalf of our Prashanti family to be a part of this unique opportunity to witness a combination of best of the West with the best of the East. A topnotch research finding on onside and on another side the insights from Indian traditional scriptures is going to give a new direction for the present day problems.

*With Best wishes,*  
**Dr. H R Nagendra**

President  
Conference Organizing committee  
VYASA, Bengaluru

## ABOUT S-VYASA



The institution was formally registered as a research based charitable organization called Vivekananda Kendra Cikitsa Tatha Anusandhana Samiti [YOCTAS] in the year 1981 with the objective of scientifically evaluating the therapeutic benefits of yoga and its' applications. Following the path breaking work in evaluating the therapeutic use of yoga in the management of bronchial asthma in 1985, the Swami Vivekananda Yoga Research Foundation was recognized as a Scientific & Industrial Research Organization [SIRO] from the Department of Scientific & Industrial Research, Ministry of Science & Technology, Government of India in the year 1988. The scientific accomplishments thereafter and the disciplined education based on the science and philosophy of yoga resulted in receiving University affiliations leading to a doctoral level program in yoga & allied sciences under the Faculty of Science, Bangalore University, and subsequently getting the recognition as a Deemed-to-be University by the Ministry of Human Resource Development, Government of India, through the University Grants Commission in the year 2002. Currently, the parent organization, Vivekananda Yoga Anusandhana Samsthana (Research Foundation) [VYASA] sponsors the University, Swami Vivekananda Yoga Anusandhana Samsthana (Research Foundation) [SVYASA]. SVYASA has published 182 research papers in national and international journals. Also S-VYASA is equipped with a 200 bedded yoga therapy hospital. Recently Naturopathy and Ayurveda hospital was added to the holistic health home.

The Govt. of India, Ministry of Health & Family Welfare, Department of AYUSH has accorded the status of Center of Excellence in Yoga for S-VYASA. SVYASA has been designated as Center of Excellence in yoga and the Research Department is designated at the ICMR Center for Advanced Research in Yoga and Neurophysiology (ICMR CAR Y & N). Recently SVYASA has got ISO 9001 -2008 certification & NAAC accreditation.

# Acknowledgements

We highly Acknowledge  
the GRANTS from...

- Karnataka Government  
for Cultural Programmes of the Conference.
- Department of AYUSH, New Delhi  
for the Conference

# MESSAGES





श्रीश्री जगद्गुरु शङ्कराचार्य महासंस्थानम्, दक्षिणाम्नाय श्रीशारदापीठम्, शृङ्गेरी  
**Sri Sri Jagadguru Shankaracharya Mahasamsthanam**  
Dakshinamnaya Sri Sharada Peetham, Sringeri - 577 139, Karantaka. INDIA.



**V.R. Gowri Shankar BE, OISC, MIMA,**  
CEO & Administrator  
Sri Sringeri Math and its Properties

Phone Off : 08265 - 250123 Resi : 08265 - 250192 Fax : 08265 - 250792  
Website : www.sringerisharadapeetham.org | or www.sringeri.net  
Email : info@sringerisharadapeetham.org

Ref: SS/6085

Camp :

Date :

December 1, 2011

Organising Secretary,  
19<sup>th</sup> INCOFYRA  
19, Eknath Bhavan  
Gavipuram Circle  
KG Nagar  
Bangalore 560019

Dear Sir,

Received your letter of 22<sup>nd</sup> November enclosing the brochure for the 19<sup>th</sup> International Conference on "Frontiers in Yoga Research and Its Applications" to be held during this month and placed at the lotus feet of His Holiness with your pranams.

The gracious blessings of His Holiness are conveyed to the successful conduct of the 19<sup>th</sup> International Conference on "Frontiers in Yoga Research and Its Applications" and for the Conference to help the aspirants to live their day to day life with the strength of the Yoga and under the law of the Vedanta so that their lives can find their most potent expression and enable them to channelize their talents and energies in various avenues, productive and profitable to themselves and the society

Asirmantrakshatas and Sri Sharada Chandramouleswara prasadams blessed by His Holiness are enclosed.

Yours sincerely

(V.R. GOWRISHANKAR)

Encl: Prasadams



SWAMI DAYANANDA SARASWATI



### Message

I am happy to know that you are going to have an International Conference on Yoga for Global Health, Education and Peace. The annual conference in SVYASA has become an effective forum for presenting research papers by all those who are engaged in the practice of Yoga, especially in therapeutics. Over centuries, Yoga has proved itself to be a blessing in an individual's life to discover self-love and good health. May this meet promote Yoga to become a part of daily practice, *nitya-karma*, of all men and women all over the world. My best wishes for the success of the conference.

*Swami Dayananda Saraswati*  
1-12-2011

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Swami Dayananda Ashram, Purani Jhari, Rishikesh 249 201 INDIA Tel : +91 135 243 0769 / 243 6769  
Arsha Vidya Gurukulam, P O Box 1059, Saylorsburg, PA 18353 USA Tel : +1 570 992 2339 Email : sakshat49@gmail.com

# Ramakrishna Math and Ramakrishna Mission

Headquarters : Belur Math, Dt.Howrah, West Bengal, India

Ramakrishna Math & Ramakrishna Mission  
P.O. Belur Math, Dist Howrah, West Bengal-711 202  
Phone : (91-33-) 2654-1144/1180/5391/8494/9581/9681  
Fax : 033-2654-4071 ,Email : president@rkmpresident.org

Atmano mokshartham jagad hitaya cha  
( For one's own salvation and for the welfare of the world )



Sri Ramakrishna Sharanam!

## **MESSAGE**

November 18, 2011

I am happy to know that the Swami Vivekananda Yoga Anusandhana Samsthana (S -VYASA Yoga University), Prashanthi Kutiram, Bengaluru, will be hosting the 19<sup>th</sup> International Conference on 'Frontiers in Yoga Research and its Applications' from 20 to 23 December 2011, in Bengaluru. I am also happy to note that this year's theme is 'Yoga for Global Health, Education and Peace.'

The term 'Yoga' has received much attention in recent times. While Hatha Yoga deals with the control of the body – Raja Yoga offers a way to enlightenment through the control of the mind. Swami Vivekananda was of the opinion that Raja Yoga is the *real* yoga, but its practice is dangerous without the guidance of a realized guru. Nowadays, such competent teachers are difficult to find, which in Swamiji's opinion makes the exclusive practice of this path unsuitable in present times.

We should also note that there are other yogas or paths to God – namely Jnana (discrimination), Bhakti (devotion) and Karma (selfless action). The ideal person is he who has learnt how to harmoniously blend the four yogas into his life.

I wish the conference as well as the souvenir success and pray that it serves to enlighten the participants about the various aspects of yoga.

(Swami Atmasthananda)  
President  
Ramakrishna Math &  
Ramakrishna Mission

Dr. H R Nagendra  
Conference Organising Committee, S-VYASA, Bangalore  
19 Eknath Bhavan  
Gavipuram Circle, K G Nagar  
Bengaluru - 560 019

# Ramakrishna Math and Ramakrishna Mission

Headquarters : Belur Math, Dt.Howrah, West Bengal, India

Atmano mokshartham jagad hitaya cha  
( For one's own salvation and for the welfare of the world )



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Phone : (91-33-) 2654-1144/1180/5391/8494/9581/9681  
Fax : 033-2654-4071 ,Email : president@rkmpresident.org



December 1, 2011

Dear Dr. H R Nagendra,

I am glad to learn about the 19th international conference on 'Frontiers in Yoga Research and Its Application' at S-VYASA University, Bengaluru, India, from December 20 to 23, 2011.

When the price of traditional treatment is shooting up beyond the reach of the common man, institutions like yours working on Yoga research and allied alternate methods of treatment will certainly go a long way in bringing this treatment to all people in India and abroad.

I wish your Conference a grand success and congratulate you all in this worthy effort.

With kind regards,

Yours in Sri Ramakrishna,

Swami Smaranananda  
Vice-President  
Ramakrishna Math &  
Ramakrishna Mission



## Swami Niranjananda

Paramacharya of Bihar Yoga Bharati  
(Institute for Advanced Studies in the Yogic Sciences),  
Munger, Bihar.



Ganga Darshan  
Fort, Munger  
Bihar 811201

Blessed Selves,

Hari Om.

On the auspicious occasion of the 19th INCOFYRA Conference convened by Vivekananda Yoga Anusandhana Samsthana, we extend our best wishes to all participants and organizers for a successful program.

In today's world, the need for a deep understanding of the science, system and philosophy of yoga is felt everywhere. The traditional vision of yoga as a holistic approach to a balanced life for each and everyone has to be revived, appreciated and applied, if we want a bright future. Our guru, Sri Swami Satyananda Saraswati proclaimed fifty years ago that 'Yoga will be the culture of tomorrow'. Today we are at the dawn of this tomorrow and we must reach beyond the confines of race, gender, religion and nation.

Yoga sees health not as the absence of disease from the body, but more as the ability to manage deficiencies, illness and imbalances in the physiological, psychological and spiritual dimensions of human life. In this context, yoga and yoga therapy have to be recognized as promoting health as well as preventing and alleviating ill health for the individual and society.

To the young generation, the many branches of yoga offer an alternative to the modern way of life. They provide tools for a balanced lifestyle and allow every child



and youngster to discover and develop their creative potential in whatever field they choose.

Global peace can only be attained, if there is peace within each individual. Yoga is able to instil a feeling of quietude and contentment along with the desire to share with others through service and the spirit of atmabhav.

We are delighted to know that Vivekananda Yoga Anusandhana Samsthana in its 19th INCOFYRA Conference is presenting the results of extensive research to the wider public and thus paving the way to global health, creative education and world peace.

With blessings for peace, plenty, and prosperity in life.

Om Tat Sat.

*Swami Niranjan*

Swami Niranjan Saraswati

**D. VEERENDRA HEGGADE**



**DHARMASTHALA - 574 216**

**D. KANNADA, KARNATAKA**

**☎ : OFFICE : (08256) : 277121**

**E-Mail : dvheggade@hotmail.com**

**Date:29.11.2011**

**Dear Dr. H.R. Nagendra**

I am happy to note that you have planned to host the 19<sup>th</sup> International Conference on "Frontiers in Yoga Research and Its Applications" at S.Vyasa University, Bangalore from 20<sup>th</sup> to 23<sup>rd</sup> December, 2011.

I appreciate your efforts to create awareness about the significance of Yoga, Ayurveda and Naturopathy system. I wish you all success in your efforts.

It is befitting that you will also publish a Souvenir to commemorate this happy occasion. Hope the Souvenir will be informative and resourceful.

I wish the publication all success.

May Sri Manjunatha Swamy bless you.

Thanking you,

Yours sincerely,

(D.VEERENDRA HEGGADE)



# Sri Ramanuja Mission Trust

"Let None Suffer"



Leading systems controlling society like economy and even science, all aim at identification and augmentation of only external resources. Politics and law meant for order and peace, fructifier and fruit of all developments, consider inner resources and their channelization process as a product of autonomy, accident, reforms and rigidity, and are perfunctory in influencing the society with a robust spiritual muscle.

Yoga is the only science to tap, transmit and transform with inner resources like confidence, clarity, capacity, courage, compassion and commitment, the vital components of all systems. There is nothing wrong, if it is said that all others are earnest and eternal, dependant and beneficiaries of yoga.

To be ethical as well as efficient and also to be enabled to empower others, are rare traits even independently, and a combination of all of them is nearer or next to myth. Yoga only has the code and control to perform this alchemy in anybody and everybody.

I wish that this noble and prudent endeavour of the organisers evince the most distinguished and distinguishable form, force and fruit of the real Yogic System.

**Sri Sri Prof. U Ve S.A.R Prasanna Venkatachariar Chaturvedi Swamiji**  
Founder Chairman,  
Sri Ramanuja Mission Trust, Head,  
Sri Sudarshana Peetam



## **RAMAKRISHNA MISSION**

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December 1, 2011

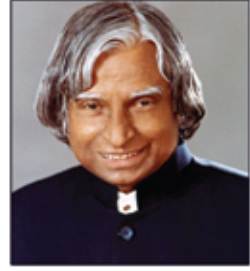
Dear Dr. H R Nagendra,

Glad to note that VYASA is organizing an international conference on yoga. VYASA has been doing pioneering work in the field of yoga, particularly through its research activities. Many of the ancient concepts of yoga, which the seers and other great minds of India had discovered thousands of years ago, remain inaccessible to the people who need them because of the absence of scientific research to validate these ideas. VYASA has been doing a yeoman service in this direction by trying to fill up this gap in the area of pursuit of yoga. Understanding yoga in an atmosphere of materialistic culture will deny and deprive people of the wonderful spiritual treasures hidden in it. Yoga will become a holistic science capable of taking care of man at the level of body as well as mind only when the spiritual dimension of yoga is brought to light through scientific research. I am sure the ensuing conference will be another step in that direction.

My prayers to the Almighty for the success of the conference,

Yours in service,  
Swami Shantatmananda  
Secretary, Ramakrishna Mission, New Delhi

**Dr. APJ Abdul Kalam,  
Former President of India**



Nov 18, 2011

Dear Dr. H R Nagendra

Please refer to your mail inviting me to participate in the conference on "Frontiers in Yoga Research and Its' Applications" at S-VYASA University, Bengaluru, India, from December 20 to 23, 2011.

Due to various other prior commitments during that period, I regret my inability to participate in the programme.

I extend my warm greetings to all of you and wish the conference all success.

APJ Abdul Kalam

10, Rajaji Marg, New Delhi -110 001, India  
Email: [apj@abdulkalam.com](mailto:apj@abdulkalam.com)  
[www.abdulkalam.com](http://www.abdulkalam.com)

ಬಿ.ಎಸ್. ಯಡಿಯೂರಪ್ಪ  
ಮಾತ ಮುಖ್ಯಮಂತ್ರಿ



ಸಂ. ಮಾ.ಮಾ.ಎಂ/19/11

## ಸಂದೇಶ

ದಿನಾಂಕ... 9/12/11

ಇದೇ ದಿನೆಂಬರ್ 12ರಿಂದ 30ರವರೆಗೆ ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನದ ವತಿಯಿಂದ 19ನೇ ಅಂತರರಾಷ್ಟ್ರೀಯ ಯೋಗ ಸಮ್ಮೇಳನವನ್ನು ಆಯೋಜಿಸಿರುವ ವಿಷಯ ತಿಳಿದು ಅತ್ಯಂತ ಸಂತೋಷವಾಯಿತು. ಸಿಲಿಕಾನ್ ವ್ಯಾಲಿಯೆಂದೇ ಖ್ಯಾತಿ ಗಳಿಸಿರುವ ಬೆಂಗಳೂರು ನಗರದಲ್ಲಿ ಪ್ರತಿ ಎರಡು ವರ್ಷಗಳಿಗೊಮ್ಮೆ ಜರುಗುವ ಅಂತರರಾಷ್ಟ್ರೀಯ ಯೋಗ ಸಮ್ಮೇಳನದಲ್ಲಿ ದೇಶ ವಿದೇಶಗಳಿಂದ ವಿವಿಧ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಕುಲಪತಿಗಳು, ಹೆಸರಾಂತ ವಿಜ್ಞಾನಿಗಳು, ಯೋಗಪಟುಗಳು ಹಾಗೂ ಗಣ್ಯ ವ್ಯಕ್ತಿಗಳು ಆಗಮಿಸಿ ತಮ್ಮ ತಮ್ಮ ಅನುಭವ ಹಾಗೂ ವಿಚಾರ ವಿನಿಮಯಗಳ ಅರ್ಥಪೂರ್ಣವಾದ ಮಂಥನ ನಡೆಯುತ್ತದೆ. ಭಾರತೀಯ ಸಂಸ್ಕೃತಿ ಮತ್ತು ಸನಾತನ ಧರ್ಮವು ಇಂದು ಇಡೀ ವಿಶ್ವದ ಗಮನ ಸೆಳೆಯುತ್ತಿರುವುದು ಅತ್ಯಂತ ಹೆಮ್ಮೆಪಡುವ ಸಂಗತಿಯಾಗಿದೆ.

ತಮಗೆ ತಿಳಿದಿರುವಂತೆ ರಾಜ್ಯ ವಿಧಾನ ಮಂಡಲದ ಅಧಿವೇಶನ ನಡೆಯುತ್ತಿರುವುದರಿಂದ ಈ ಸಮ್ಮೇಳನದ ಉದ್ಘಾಟನಾ ಸಮಾರಂಭದಲ್ಲಿ ಭಾಗವಹಿಸಲು ಸಾಧ್ಯವಾಗುತ್ತಿಲ್ಲ. ಈ ಸಮ್ಮೇಳನದ ಸಕಲ ಕಾರ್ಯಗಳು ಯಶಸ್ವಿಯಾಗಿ ನೆರವೇರಲೆಂದು ಶುಭ ಕೋರುತ್ತಾ, ಈ ಸಮ್ಮೇಳನದಲ್ಲಿ ಭಾಗವಹಿಸಿದ ಎಲ್ಲ ಪ್ರತಿನಿಧಿಗಳಿಗೆ ಶುಭ ಹಾರೈಸುತ್ತೇನೆ.

ಬಿ.ಎಸ್. ಯಡಿಯೂರಪ್ಪ  
(ಬಿ. ಎಸ್. ಯಡಿಯೂರಪ್ಪ)

ಡಾ:ಹೆಚ್.ಆರ್.ನಾಗೇಂದ್ರ,  
ಕುಲಪತಿಗಳು,  
ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನ,  
ಬೆಂಗಳೂರು - 560 019.

ನಂ. 2, ರೇಸ್‌ವ್ಯೂ ಕಾಟೇಜ್, ರೇಸ್‌ಕೋರ್ಸ್ ರಸ್ತೆ, ಬೆಂಗಳೂರು - 560 001  
ಫ್ಯಾಕ್ಸ್(ಟೆಲಿ): 080-22389910, 22255801, 08187-222777 / 935



ಗೋವಿಂದ ಎಂ. ಕಾರಜೋಳ  
 ಸಣ್ಣ ನೀರಾವರಿ, ಕನ್ನಡ ಮತ್ತು  
 ಸಂಸ್ಕೃತಿ ಸಚಿವರು ಹಾಗೂ ಬಾಗಲಕೋಟೆ  
 ಜಿಲ್ಲಾ ಉಸ್ತುವಾರಿ ಸಚಿವರು



ದೂರವಾಣಿ ಸಂಖ್ಯೆ : 22033167  
 ದೂರವಾಣಿ ಫ್ಯಾಕ್ಸ್ : 22253578  
 ಕೊಠಡಿ ಸಂಖ್ಯೆ: 339, 3ನೇ ಮಹಡಿ  
 ವಿಧಾನ ಸೌಧ, ಬೆಂಗಳೂರು - 560 001

ಸಂಖ್ಯೆ: ಸನೀಕಸಂಸ/ /

ದಿನಾಂಕ : 09-12-2011

:ಸಂದೇಶ:

“ಯೋಗ” ಎಂಬುದು ಪರಿಪೂರ್ಣ ವಿಜ್ಞಾನ ಇದು ನಮ್ಮ ಭಾರತದೇಶ ಈ ವಿಶ್ವಕ್ಕೆ ನೀಡಿದ ಅದ್ಭುತವಾದ ಕೊಡುಗೆಯಾಗಿದೆ. “ಯೋಗಾಭಿವೃದ್ಧಿ ನಿರೋಧ:” ಎಂದು ಯೋಗ ಎಂಬ ಪದದ ಲಕ್ಷಣ ನಿರೂಪಣೆಯನ್ನು ವಿವರಿಸಿದ್ದಾರೆ. ಯೋಗ ಮನಸ್ಸಿನ ಆಲೋಚನಾ ತರಂಗಗಳನ್ನು ಹತೋಟಿಯಲ್ಲಿ ಇಡುತ್ತದೆ ಅದು ಮನಸ್ಸನ್ನು ಎಲ್ಲಾ ರೀತಿಯಲ್ಲಿಯೂ ನಿಯಂತ್ರಿಸುತ್ತದೆ. ಆಧುನಿಕ ಜೀವನ ಪದ್ಧತಿಗಳು ಮಾನವನ ಜೀವನವನ್ನು ಏನಾಶಕ್ತಿ ತಳ್ಳುವ ಸಂದರ್ಭದಲ್ಲಿ ಯೋಗದ ಮಹತ್ವವನ್ನು ಅರಿತು ಆಚರಿಸಿದಲ್ಲಿ ಜೀವನ ಸಹಜ ಸುಂದರವಾಗುತ್ತದೆ. ಶಾಂತಿ, ನೆಮ್ಮದಿ ನಮ್ಮದಾಗುತ್ತದೆ. ಇಂದಿನ ದಿನಗಳಲ್ಲಿ ಸಿರಿಕಾನ್ ವೆಲ್ಯು ಆಫ್ ಇಂಡಿಯಾ ಎಂದು ಕರೆಸಿಕೊಳ್ಳುವ ಈ ಬೆಂಗಳೂರು ನಗರದ ಸಮೀಪದಲ್ಲಿ ಪ್ರಶಾಂತಿ ಕುಟೀರಂ ಎಂಬ ಪ್ರದೇಶದಲ್ಲಿ ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನ ಸಂಸ್ಥೆಯು ಯೋಗಪಟುಗಳು ಭಾಗವಹಿಸುವ ಅಂತರರಾಷ್ಟ್ರೀಯ ಯೋಗ ಸಮ್ಮೇಳನ ನಡೆಸುತ್ತಿರುವುದು ನಿಜಕ್ಕೂ ಶ್ಲಾಘನೀಯವಾದುದು. ಈ ರೀತಿಯ ಯೋಗ ಸಮ್ಮೇಳನವು ಹಾಲಿ ಜನ ಸಮುದಾಯಕ್ಕೆ ಅತ್ಯವಶ್ಯವಾಗಿದ್ದು, ಯುವ ಜನಾಂಗದವರಿಗೆ ಸದುಪಯೋಗವಾಗಲಿ, ಆರೋಗ್ಯವಂತ ಜೀವನ ಸಾಗಿಸಲು ಯೋಗಾಭ್ಯಾಸ ಅತ್ಯಂತ ಪ್ರಯೋಜನಕಾರಿ ಎಂದು ತಿಳಿಸುತ್ತಾ, ಅಂತರರಾಷ್ಟ್ರೀಯ ಯೋಗ ಸಮ್ಮೇಳನವು ಯಶಸ್ವಿಯಾಗಲಿ, ಸಮ್ಮೇಳನದ ಉದ್ದೇಶ ಈಡೇರಲಿ ಎಂದು ಶುಭ ಹಾರೈಸುತ್ತೇನೆ.

(ಗೋವಿಂದ ಎಂ.ಕಾರಜೋಳ)

ಡಾ: ಹೆಚ್.ಆರ್.ನಾಗೇಂದ್ರ,  
 ಕುಲಪತಿಗಳು,  
 ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನ,  
 ಏಕನಾಥ ಭವನ, ಗವಿಪುರಂ ವೃತ್ತ,  
 ಕೆಂಪೇಗೌಡ ನಗರ, ಬೆಂಗಳೂರು.

## ಎಂ.ಕೃಷ್ಣಪ್ಪ

ಶಾಸಕರು : ಬೆಂ. ದಕ್ಷಿಣ ಕ್ಷೇತ್ರ  
ಉಪಾಧ್ಯಕ್ಷರು : ಬೆಂ.ಮ.ಸಾ.ಸಂ.



ದೂರವಾಣಿ: 22952590  
ಫ್ಯಾಕ್ಸ್: 22952581  
ಮನೆ: 26712006  
ಕಛೇರಿ: ಬೆಂ.ಮ.ಸಾ.ಸಂ. ಕೇಂದ್ರ ಕಛೇರಿ  
ಶಾಂತಿನಗರ, ಬೆಂ-27  
ಮನೆ: 196, 24ನೇ ಆಡ್ಡ ರಸ್ತೆ, 16ನೇ ಮುಖ್ಯ ರಸ್ತೆ  
ಬಸವಕೆರೆ 2ನೇ ಹಂತ ಬೆಂ-70

ಸಂಖ್ಯೆ: ಶಾ.ಬೆಂ.ದ ಮತ್ತು ಉ.ಬೆಂ.ಮ.ಸಾ.ಸಂ: /770/2011-12 ದಿನಾಂಕ: .....05-12-2011

ಡಾ|| ಹೆಚ್.ಆರ್.ನಾಗೇಂದ್ರ ರವರು,  
ಕುಲಪತಿಗಳು,  
ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನ,  
ಬೆಂಗಳೂರು.



ಮಾನ್ಯರೇ,

ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನದ ವತಿಯಿಂದ ಈ ವರ್ಷದ ಡಿಸೆಂಬರ್-12 ರಿಂದ 30ರವರೆಗೆ ಹಮ್ಮಿಕೊಳ್ಳಲಾಗಿರುವ 19ನೇ ಅಂತರರಾಷ್ಟ್ರೀಯ ಯೋಗ ಸಮ್ಮೇಳನಕ್ಕೆ ಪ್ರಥಮವಾಗಿ ನನ್ನ ಹೃದಯಪೂರ್ವಕ ಶುಭಾಷಯಗಳನ್ನು ಅರ್ಪಿಸುತ್ತಿದ್ದೇನೆ.

ಮಾನವನ ದೈಹಿಕ ಮತ್ತು ಮಾನಸಿಕ ಆರೋಗ್ಯವನ್ನು ಸದೃಢಗೊಳಿಸಿ ಶಾಂತಿಯುಕ್ತ ಮನಸ್ಸನ್ನು ರೂಪುಗೊಳಿಸುವ ಸಾಮರ್ಥ್ಯವುಳ್ಳ ಯೋಗಶಕ್ತಿಯನ್ನು ವೈಜ್ಞಾನಿಕ ರೀತಿಯ ಸಂಶೋಧನೆಗಳ ಮೂಲಕ ಹೆಚ್ಚು ಹೆಚ್ಚು ಪ್ರಚುರಪಡಿಸುತ್ತಿರುವ ತಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯಕ್ಕೆ ನಾನು ಹೃತ್ಪೂರ್ವಕ ಅಭಿನಂದನೆಗಳು ಸಲ್ಲುತ್ತವೆ.

ಜಾಗತಿಕ ಆರೋಗ್ಯ ಮತ್ತು ಶಾಂತಿಗಾಗಿ ತಾವು ನಡೆಸುತ್ತಿರುವ ಈ ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಮ್ಮೇಳನವು ಮಹತ್ತರ ಯಶಸ್ಸನ್ನು ಕಾಣಲಿ ಎಂದು ಮತ್ತೊಮ್ಮೆ ಹಾರೈಸುತ್ತೇನೆ.

ವಂದನೆಗಳೊಂದಿಗೆ,

ತಮ್ಮ ವಿಶ್ವಾಸಿ,

(ಎಂ. ಕೃಷ್ಣಪ್ಪ)



Padma Shri, Padma Bhushan, Yogacharya  
Sri B.K.S. Iyengar, Founder, Ramamani  
Iyengar Memorial Yoga Institute, Pune, India

Health is like a flowing river which moves forward creating freshness moment to moment and hence I wish this conference a grand success paying attention on the practical aspect of health which progress forward through yoga. I am happy that such conferences are held to kindle the interest in minds of the people regarding the importance of health from physical, moral, mental, intellectual and divine health. I wish this International conference to lit the lamp of health so that it remains flaming forever.

**Ramamani Iyengar Memorial Yoga Institute (RIMYI)**

1107 B/1 Hare Krishna Mandir Road, Model Colony, Shivaji Nagar,

Pune - 411 016, Maharashtra.

INDIA.

Telephone: +91-20-2565 6134



# CONFERENCE SCHEDULE



**INAUGURAL FUNCTION  
December 20, 2011**

TIME	PROGRAM
2:00pm – 4:00pm	Registration
4:00pm – 6:00pm	Inaugural Function at Mangal Mandir, Prashanti Kutiram
6:00pm – 7:30pm	Satsangh lead by Sri Sri Ravishankar ji and Art of Living Devotees
8:30pm – 10:00pm	Dance Ballet on “Chakra-Vishwa Yogi Vivekananda ” by Baskar’s Dance Academy, Singapore

**MORNING SESSION  
December 21, 22 & 23, 2011**

TIME	PROGRAM
4:30 am	Wake up / Usha Svasti
4:30 am – 5:30 am	Personal Time
5:30 am - 6:00 am	‘OM’ Meditation
6:00 am – 7:00 am	General Yoga Sessions
7:15 am – 8:00 am	Maitri Milan- Dr. H R Nagendra

8:00 am – 9:00am	Breakfast
9:00am – 9:15am	Announcements / Conference song

**SCIENTIFIC SESSIONS**  
**Forenoon: December 21, 2011**

TIME	PROGRAM						
09:15 – 10:25 am	<p><b>KEYNOTE ADDRESS: YOGA IN EDUCATION</b>  <b>Dr. H R Nagendra, Vice-Chancellor, S-VYASA University, Bengaluru</b>  <b>Title: Adoption of theoretical principles and techniques of yoga to evolve a holistic perspective in modern primary and higher education system</b></p>						
10:25 – 10:55 am	Tea Break						
11:00 – 1:00 pm	<b>PARALLEL SYMPOSIA: 3 TRACKS</b>						
	<table border="1"> <tr> <td><b>PRARTHANA MANDIR YOGA FOR PEACE</b></td> <td><b>MANGAL MANDIR HOLISTIC HEALTH CARE</b></td> <td><b>AHIMSA HALL YOGA AND EDUCATION</b></td> </tr> <tr> <td> <p><b>Chair persons:</b>  <b>Swami Gautamananda ji, President,</b>  <b>Sri Ramakrishna Math, Chennai</b>  <b>Mr. Andrew Cohen</b>  <b>Founder, EnlightenNext, Boston, USA</b></p> </td> <td> <p><b>Chair persons:</b>  <b>Dr. P. Satish Chandra, Director / Vice-Chancellor, NIMHANS, Bengaluru</b>  <b>Dr. Sat Bir Khalsa, Assistant Professor of Medicine, Harvard Medical School, USA</b></p> </td> <td> <p><b>Chair persons:</b>  <b>Prof. K. Madhu, Professor, Dept. of Psychology &amp; Parapsychology, Andhra University, Visakhapatnam</b>  <b>Dr. R Venkataram, Former Registrar, S-VYASA University Bengaluru</b></p> </td> </tr> </table>	<b>PRARTHANA MANDIR YOGA FOR PEACE</b>	<b>MANGAL MANDIR HOLISTIC HEALTH CARE</b>	<b>AHIMSA HALL YOGA AND EDUCATION</b>	<p><b>Chair persons:</b>  <b>Swami Gautamananda ji, President,</b>  <b>Sri Ramakrishna Math, Chennai</b>  <b>Mr. Andrew Cohen</b>  <b>Founder, EnlightenNext, Boston, USA</b></p>	<p><b>Chair persons:</b>  <b>Dr. P. Satish Chandra, Director / Vice-Chancellor, NIMHANS, Bengaluru</b>  <b>Dr. Sat Bir Khalsa, Assistant Professor of Medicine, Harvard Medical School, USA</b></p>	<p><b>Chair persons:</b>  <b>Prof. K. Madhu, Professor, Dept. of Psychology &amp; Parapsychology, Andhra University, Visakhapatnam</b>  <b>Dr. R Venkataram, Former Registrar, S-VYASA University Bengaluru</b></p>
<b>PRARTHANA MANDIR YOGA FOR PEACE</b>	<b>MANGAL MANDIR HOLISTIC HEALTH CARE</b>	<b>AHIMSA HALL YOGA AND EDUCATION</b>					
<p><b>Chair persons:</b>  <b>Swami Gautamananda ji, President,</b>  <b>Sri Ramakrishna Math, Chennai</b>  <b>Mr. Andrew Cohen</b>  <b>Founder, EnlightenNext, Boston, USA</b></p>	<p><b>Chair persons:</b>  <b>Dr. P. Satish Chandra, Director / Vice-Chancellor, NIMHANS, Bengaluru</b>  <b>Dr. Sat Bir Khalsa, Assistant Professor of Medicine, Harvard Medical School, USA</b></p>	<p><b>Chair persons:</b>  <b>Prof. K. Madhu, Professor, Dept. of Psychology &amp; Parapsychology, Andhra University, Visakhapatnam</b>  <b>Dr. R Venkataram, Former Registrar, S-VYASA University Bengaluru</b></p>					

<p><b>Invited speakers:</b></p> <p><b>Swami Atmapriyananda ji,</b> Vice Chancellor, Ramakrishna Mission Vivekananda University, Kolkata <b>Title: Yoga for Global Peace: In the light of Sri Ramakrishna's teachings</b></p>	<p><b>Invited speakers:</b></p> <p><b>Dr. B N Gangadhar,</b> Professor, Dept. of Psychiatry, &amp; Program Director, Advanced Centre for Yoga, NIMHANS, Bengaluru <b>Title: Neurobiology of yoga therapy in psychiatric disorders</b></p>	<p><b>Invited speakers:</b></p> <p><b>Prof. N Rudraiah,</b> Honorary Professor, Dept. of Mathematics, Bangalore University <b>Title: Mathematical modelling of smart materials to understand the impact of stretching of muscles due to hath yoga</b></p>
<p><b>Dr. Sarada Natrajan,</b> Director, Ramana Maharshi Centre for Learning, Bangalore <b>Title: Bhagavan sri ramana maharshi's message for universal peace</b></p>	<p><b>Dr. Thimappa Hegde,</b> Director - Narayana Institute of Neurosciences, Bengaluru <b>Title: Sensory and Motor nervous system, Science and Beyond Science</b></p>	<p><b>Prof. Mahadevan B,</b> Professor, Production &amp; Operations Management, IIM Bangalore <b>Title: Role of yoga in addressing productivity &amp; performance challenges of corporate executives</b></p>
<p><b>Prof. Alex Hankey,</b> Prof. Div. of Yoga &amp; Physical Sciences, S-VYASA University, Bengaluru <b>Title: How Jyotish muhurta influences biosystems: Graha sourced quantum coherence acts on criticality states of regulation</b></p>	<p><b>Dr. Christoph Garner,</b> Director, KWA- Klinik Stift Rottal Germany <b>Title: Holistic neurologic rehabilitation including yoga-therapy</b></p>	<p><b>Dr. Manmath Gharote,</b> Director, Lonavla Institute of Yoga studies, Lonavla <b>Title: Yoga for global education: Insights from traditional texts</b></p>
	<p><b>Dr. B R Ramakrishna,</b> Principal, Sushrutha Ayurveda Medical College, Bengaluru <b>Title: Ayurveda for global health</b></p>	<p><b>Dr. Ananda Balayogi Bhavanani,</b> Chairman, ICYER and Yoganjali Natalayam, Pondicherry <b>Title: Yoga and the educational process</b></p>

**SCIENTIFIC SESSIONS**  
**Post Lunch: December 21, 2011**

TIME	PROGRAM						
2:00 – 2:25 pm	Guided Relaxation						
2:30 – 3:30 pm	Poster Session @ Patanjali Hall						
3:30 – 3:55 pm	Tea Break						
Parallel Panel discussions: 3 Tracks							
4:00 – 5:00 pm	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 33%;"> <b>PRARTHANA MANDIR</b> YOGA FOR PEACE  Moderator: Prof. Subramanyam K                 </td> <td style="text-align: center; width: 33%;"> <b>MANGAL MANDIR</b> HOLISTIC HEALTH CARE  Moderator: Dr. R Nagarathna                 </td> <td style="text-align: center; width: 33%;"> <b>AHIMSA HALL</b> YOGA AND EDUCATION  Moderator: Prof Mahadevan B                 </td> </tr> <tr> <td> <b>Panelists:</b> All the invited speakers of the symposia &amp; others                 </td> <td> <b>Panelists:</b> All the invited speakers of the symposia &amp; others                 </td> <td> <b>Panelists:</b> All the invited speakers of the symposia &amp; others                 </td> </tr> </table>	<b>PRARTHANA MANDIR</b> YOGA FOR PEACE  Moderator: Prof. Subramanyam K	<b>MANGAL MANDIR</b> HOLISTIC HEALTH CARE  Moderator: Dr. R Nagarathna	<b>AHIMSA HALL</b> YOGA AND EDUCATION  Moderator: Prof Mahadevan B	<b>Panelists:</b> All the invited speakers of the symposia & others	<b>Panelists:</b> All the invited speakers of the symposia & others	<b>Panelists:</b> All the invited speakers of the symposia & others
<b>PRARTHANA MANDIR</b> YOGA FOR PEACE  Moderator: Prof. Subramanyam K	<b>MANGAL MANDIR</b> HOLISTIC HEALTH CARE  Moderator: Dr. R Nagarathna	<b>AHIMSA HALL</b> YOGA AND EDUCATION  Moderator: Prof Mahadevan B					
<b>Panelists:</b> All the invited speakers of the symposia & others	<b>Panelists:</b> All the invited speakers of the symposia & others	<b>Panelists:</b> All the invited speakers of the symposia & others					

**SCIENTIFIC SESSIONS  
December 22, 2011**

TIME	PROGRAM
9:15 – 10:25 am	<p align="center"><b>KEYNOTE ADDRESS: YOGA AND HEALTH - DIMENSIONS OF RESEARCH</b>  <b>Dr. R Nagarathna</b>, Dean, Division of Yoga &amp; Life Sciences, S-VYASA University, Bengaluru  <b>Title: Yoga for global health, education and peace</b>  <b>Dr. Shirley Telles</b>, Head, ICMR Center for Advanced Research in Yoga &amp; Neurophysiology, S-VYASA, Bengaluru  <b>Title: Yoga therapy emphasizing the philosophy of yoga as an essential part of the therapy</b></p>
10:25 – 10:55 am	Tea Break
11:00 – 1:00 pm	<p align="center"><b>PARALLEL SYMPOSIA: 3 TRACKS</b></p>
<p align="center"><b>PRARTHANA MANDIR YOGA FOR PEACE</b></p>	<p><b>Chair persons :</b>  <b>Dr. H R Nagendra</b>, Vice-Chancellor,  S-VYASA University, Bengaluru  <b>HH Jagat Guru Amrta</b>  <b>Suryananda Maha Raja</b>, Yoga  Portuguese Confederation</p>
	<p><b>Chair persons:</b>  <b>Dr. D Nagaraja</b>, Senior  Professor and Former Director-  Vice Chancellor, NIMHANS,  Bengaluru  <b>Dr. H Sudarshan</b>, Honorary  Secretary, Karuna Trust,  Bengaluru</p>
	<p align="center"><b>AHIMSA HALL YOGA AND EDUCATION</b></p>
	<p><b>Chair persons:</b>  <b>Sri. Kartik Vyas</b>, Founder,  Potentials Unlimited, Bombay  <b>Dr. T M Srinivasan</b>, Dean,  Division of Yoga &amp; Physical  Sciences, S-VYASA, University,  Bengaluru</p>

<p><b>Invited speakers:</b></p> <p><b>Swami Jayendra Puri ji,</b> Kailash Ashrama Mahasamsthana, Bengaluru <b>Title: Vedantic prescription for global peace</b></p>	<p><b>Invited speakers:</b></p> <p><b>Title: Yoga for global health: An American experience</b></p>	<p><b>Invited speakers:</b></p>
<p><b>Prof. Subramanyam K,</b> Dean, Division of Yoga &amp; Humanities, S-VYASA, University, Bengaluru <b>Title: Yoga for Global Peace : Insights from Indian Epics</b></p>	<p><b>Dr. Naveen K V,</b> Associate Professor, S-VYASA University, Bengaluru <b>Title: Psychophysiology of meditation: An overview</b></p>	<p><b>Prof. Predrag Nikic,</b> President, International Society for Scientific Interdisciplinary Yoga Research, Serbia <b>Title: Concept of the Yoga Intelligence – Meaningful human Resource Management</b></p>
<p><b>Prof. Sangeetha Menon,</b> Professor, School of Humanities, National Institute of Advanced Studies (NIAS), Bangalore <b>Title: Quiet yet desirous of global peace: Bhagavad Gita on the yogi's mind</b></p>	<p><b>Dr. Raghavendra Kulkarni,</b> All India President, Arogya Bharati, Pune <b>Title: Unity of energy concepts in sciences-basis of holistic approach</b></p>	<p><b>Dr. Straddhalu Ranade,</b> Scientist &amp; Scholar, Sri Aurobindo Ashram, Pondicherry <b>Title: Yoga for global education: In light of Sri Aurobindo's teachings</b></p>
		<p><b>Sri. N V Raghuram,</b> International Yoga Professor, S-VYASA University, Bengaluru <b>Title: Yoga and Education according to ancient Indian wisdom</b></p>

	<p><b>Dr. Ulrich Berk</b>, President, German Association of Homa Therapy <b>Title:</b> Agnihotra and homatherapy - the effects on human health and on human mind</p>	<p><b>Dr. Prashanth Shetty</b>, Principal, SDM College of Naturopathy &amp; Yogic Sciences, Ujire <b>Title:</b> Naturopathy based lifestyle in the management of non-communicable diseases</p>	<p><b>Dr. Vijay R. Joshi</b>, Manashakti Research Center, Lonavala, Pune <b>Title:</b> Holistic health - problems : remedies by manashakti research center</p>
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**SCIENTIFIC SESSIONS**  
**Post Lunch: December 22, 2011**

TIME	PROGRAM		
2:00 - 3:30 pm	Oral Prize Paper Session @ Managal Mandir		
3:30 - 3:55 pm	Tea Break		
4:00 - 5:00 pm	Parallel Panel discussions: 3 Tracks		
	PRARTHANA MANDIR YOGA FOR PEACE	MANGAL MANDIR HOLISTIC HEALTH CARE	AHIMSA HALL YOGA AND EDUCATION
	Moderator: Dr. H R Nagendra	Moderator: Dr. Shirley Telles	Moderator: Dr. T M Srinivasan
	<b>Panelists:</b> All the invited speakers of the symposia & others	<b>Panelists:</b> All the invited speakers of the symposia & others	<b>Panelists:</b> All the invited speakers of the symposia & others

**SCIENTIFIC SESSIONS  
December 23, 2011**

TIME	PROGRAM						
9:15 - 10:25 am	<p><b>KEYNOTE ADDRESS: YOGA FOR PEACE</b>  <b>Dr. Anita Goel, Chairman &amp; CEO, Nanobiosym, USA</b>  <b>Title : Emerging frontiers in nanotechnology and global health</b>  <b>Prof. N V C Swamy, Professor Emeritus, S-VYASA Yoga University, Bengaluru</b>  <b>Title: Swami Vivekananda's views on world peace</b>  <b>Tea Break</b></p>						
10:25 - 10:55 am	<p><b>Tea Break</b></p>						
11:00 - 1:00 pm	<p align="center"><b>PARALLEL SYMPOSIA: 3 TRACKS</b></p> <table border="1"> <thead> <tr> <th>PRARTHANA MANDIR YOGA FOR PEACE</th> <th>MANGAL MANDIR HOLISTIC HEALTH CARE</th> <th>AHIMSA HALL YOGA AND EDUCATION</th> </tr> </thead> <tbody> <tr> <td> <p><b>Chair persons:</b>  <b>Swami Paramatmananda ji, General Secretary, Hindu Dharma Acharya Sabha</b>  <b>Prof. Subramanyam K, Dean, Division of Yoga &amp; Humanities, S-VYASA, University, Bengaluru</b></p> </td> <td> <p><b>Chair persons:</b>  <b>Dr. Christoph Garner, Director, KWA-Klinik Stift Rottal Germany</b>  <b>Dr. Rajesh Iyer, Neuro Physician Narayana Institute of Neurosciences, Bangalore</b></p> </td> <td> <p><b>Chair persons:</b>  <b>Sri. Subodh Tiwari, Secretary Kaivalyadhama, Lonavala</b>  <b>Dr. Krishna Bhat, Professor and Chairman, Dept. of Human Consciousness &amp; Yogic Sciences Mangalore University, Mangalore</b></p> </td> </tr> </tbody> </table>	PRARTHANA MANDIR YOGA FOR PEACE	MANGAL MANDIR HOLISTIC HEALTH CARE	AHIMSA HALL YOGA AND EDUCATION	<p><b>Chair persons:</b>  <b>Swami Paramatmananda ji, General Secretary, Hindu Dharma Acharya Sabha</b>  <b>Prof. Subramanyam K, Dean, Division of Yoga &amp; Humanities, S-VYASA, University, Bengaluru</b></p>	<p><b>Chair persons:</b>  <b>Dr. Christoph Garner, Director, KWA-Klinik Stift Rottal Germany</b>  <b>Dr. Rajesh Iyer, Neuro Physician Narayana Institute of Neurosciences, Bangalore</b></p>	<p><b>Chair persons:</b>  <b>Sri. Subodh Tiwari, Secretary Kaivalyadhama, Lonavala</b>  <b>Dr. Krishna Bhat, Professor and Chairman, Dept. of Human Consciousness &amp; Yogic Sciences Mangalore University, Mangalore</b></p>
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<p><b>Invited speakers:</b></p> <p><b>Prof. Bishal Sitaula</b>, Professor Dept. of International Environment &amp; Development Studies, Norwegian University of Life Sciences <b>Title: Global Crises and Need for Wisdom and Personal Transformation</b></p>	<p><b>Invited speakers:</b></p> <p><b>Dr. Sat Bir Khalsa</b>, Assistant Professor of Medicine, Harvard Medical School, USA <b>Title: The research and practice of yoga as therapy: An American experience</b></p>	<p><b>Invited speakers:</b></p> <p><b>Dr. Ramachandra Bhat</b>, Dean of Academics, S-VYASA University, Bengaluru <b>Title: Integrating traditional gurukula education with contemporary education</b></p>
<p><b>Swami Sadyojathah ji</b>, Art of Living Foundation, Bengaluru <b>Title:</b></p>	<p><b>Dr. Nisha N. Money</b>, Medical Director for Global Health &amp; Integrative Medicine, Global Healing Initiatives Institute, LLC, USA <b>Title:</b></p>	<p><b>Prof. Subhash Sharma</b>, Dean, Division of Yoga and Management, S-VYASA University Bengaluru <b>Title: Towards holistic education</b></p>
<p><b>Dr. R Rangan</b>, Assistant professor, Division of Yoga and Spirituality S-VYASA University, Bangalore <b>Title: Vedic wisdom for global peace</b></p>	<p><b>Dr. Shantaram Shetty</b> Chief Research Co-ordinator &amp; Secretary, The Yoga Institute, Mumbai <b>Title: Yoga for coronary artery disease</b></p> <p><b>Dr. Ram Manohar</b>, Director of Research, Ayurvedic Trust, Coimbatore <b>Title: Evidence based ayurveda for global health</b></p>	<p><b>Dr. Manjunath N K</b>, Associate Professor, S-VYASA University, Bengaluru <b>Title: Yoga for scholastic performance</b></p> <p><b>Mr. R. Alexander Medin</b>, International Yoga Teacher, Norway <b>Title: Yoga and Education</b></p>

**SCIENTIFIC SESSIONS**  
**Post Lunch: December 23, 2011**

TIME	PROGRAM
3:00 – 4:00 pm	<p>Combined Panel discussions:  <b>MANGAL MANDIR</b></p> <p>Moderator: Dr H R Nagendra</p> <p>Panelists:                      All the invited speakers &amp; others</p>
4:00 – 4:30 pm	Tea Break
4:30 – 6:00 pm	Valedictory Program

## EVENING SESSIONS

Time	December 20	December 21	December 22
PROGRAM			
6:00 -7:30pm	<p>Satsangh lead by <b>Sri Sri Ravishankar ji</b> and Art of Living Devotees</p>	<p><u>5.00 - 6.30 pm</u> Karnataka Folk Festival "Gramotsava" by Veerabhadraiah and Team Satsangh by <u>6.30 - 7.30 pm</u> Sri Sri U. Ve. Prasanna Venkatachariar Chaturvedi Swamigal</p>	<p>Pashupati - Advanced Yoga Demonstrators Group and Omkaara - Choir and Orchestra performance By Pourtugese Yoga Confederation led by <b>Amrta Suryananda Maharaj</b></p>
7:30 - 8:25pm	Dinner	Dinner	Dinner
8:30 - 10:00pm	Dance Ballet on " <b>Chakra-Vishwa Yogi Vivekananda</b> " by Baskar's Dance Academy, Singapore	<b>Bharata Darshana -</b> Cultural Programs by Students of S-VYASA, Bengaluru	<b>Dharma Bhumi Dance Drama</b> Prabhat Kalavidaru Sri Venkateshacharya and Group
10:15 pm	LIGHTS OFF	LIGHTS OFF	LIGHTS OFF

## Conference Song

### स्वास्थ्य शान्ति शिक्षा संसद्गीतम् svāsthya śānti śikṣā saṁsadgītam

शिक्षणं स्वास्थ्य संरक्षा विश्वशान्तिस्तथेरितम् ।

ध्येयं जानथ सम्मान्याः स्वागतं शुभमस्तु वः ॥१॥

Śikṣaṇam svāsthya saṁrakṣā viśvaśāntistatheritam ।

Dhyeyam jānatha sammānyāḥ svāgataṁ śubhamastu vaḥ ॥1॥

Education, Health and Global Peace are the theme of International Conference Frontiers in Yoga Research and Application (19<sup>th</sup> INCOFYRA). We welcome all the dignitaries for the same.

धूमाविष्टं सलिलमरुतां सर्वतो व्योमजालं विद्युद्वाहप्रशिथिलविकारावृतं विश्वमद्य ।

पूत्याहारज्वलनमलिनो मारुतो सर्वलोके इत्थम्भूते सकलभुवने जीवकोटिः कथं स्यात् ॥२॥

Dhūmāviṣṭam salilamarutām sarvato vyomajālam

Vidyudvāhapraśiṭhilaṅvikāravṛtam viśvamadya ।

Pūtyāhārajvalanamalino māruto sarvaloke

Itthambhūte sakalabhuvane jīvakoṭiḥ katham syāt ॥2॥

The whole atmosphere is polluted due to omission of unhealthy smoke and untimely thundering, lightening and tornadoes. Nature became against to human race due to his misunderstanding of nature. It has come to that stage that very survival of bio-diversity on the earth is in danger. ॥ 2 ॥

कलाकुलं भारतमस्ति तत्र शक्त्या च युक्ता सरसा जनाः स्युः ।

योगोऽस्तुशिक्षावलये सदात्र योगेन युक्तोऽस्तु सुशिक्षितोऽपि ॥३॥

Kalākulam bhāratamasti tatra śaktyā ca yuktā sarasā janāḥ syuḥ|

Yogo'stuśikṣāvalaye sadātra yogena yukto'stu suśikṣito'pi||3||

In order to solve this problem we must go to Yoga. If education is spiritually rooted and socially beneficial we can fill divine content in human beings. So, we are in need of man-making educational system, originated from Indian heritage. || 3 ||

चिकित्साविधानं शुभायुर्विधानात् व्याधिस्तथाधिः न भवेत् जनेषु ।

कोशेषु पञ्चात्मसु ये च रोगाः लयोऽस्तु तेषां शुभयोगसिद्ध्या ॥४॥

Cikitsāvidhānaṁ śubhāyurvidhānāt Vyādhistathādhiḥ na bhavet  
janeṣu|

Koṣeṣu pañcātmasu ye ca rogāḥ Layo'stu teṣāṁ śubhayogasiddhyā||4||

Yoga detects the cause of modern Non Communicable Diseases(NCD) as Adhi due to dominance of violent negative Rajasic emotions causing Vaydhi. To deal with human being at Physical, Pranic, Mental and emotional levels a multidimensional approach is needed to solve the problem. || 4 ||

योगो हि मूलं जगतो हिताय स्वास्थ्यस्य सिद्धिः निजयोगभूत्या ।

शिक्षां प्रदायाश्च विमुक्तारोगं वयं प्रकुरमो शुभसामरस्यम् ॥५॥

Yogo hi mūlaṁ jagato hitāya Svāsthyasya siddhiḥ nijayogabhūtyā|

Śikṣāṁ pradāyāśu vimuktarogaṁ Vayaṁ prakurmo

śubhasāmarasyam||5||

Yoga is the panacea for all health related global problems. We want well-fare state established in each and every nation by global harmony and mutual trust. || 5 ||

शिक्षा क्षयं गच्छति व्यक्तिदोषात् विवेकवैराग्ययुता च शिक्षा ।  
प्रशान्तिपाठोऽस्ति हि दातुमेनां विश्वस्य विद्या भवतात्तथैव ॥६॥

Śikṣā kṣayam gacchati vyaktidoṣāt vivekavairāgyayutā ca śikṣā |  
Praśāntipāṭho'sti hi dātumenām viśvasya vidyā bhavatāttathaiva ||6||

This international conference aims at bringing all those like minded who want Viveka and Viaragya twin qualities in education. Involving real friendship by Prema Bhava featured by giving and sharing is the solution to harmony and peace – concept of universal brotherhood. We want to revolutionize the whole educational system by bringing the value addition the YOGA || 6 ||

ज्ञाने योगो भक्तियोगे च योगः योगो राजा राजमार्गेऽपि योगः ।  
योगः प्रोक्तः कर्ममार्गे विशाले स्वास्थ्ये शिक्षाशान्तिमार्गे सुयोगः ॥७॥

Jñāne yogo bhaktiyoge ca yogaḥ Yogo rājā rājamārge'pi yogaḥ |  
Yogaḥ proktaḥ karmamārge viśāle Svāsthye śikṣāśāntimārge  
suyogaḥ ||7||

Let us work with the Integrated Approach of Yoga featured by Jnana, Raja, Bhakti and Karma to achieve the goals of Conference – Holistic Health, Total Education and Global Peace. || 7 ||

विश्वं नव्यं च भव्यं भवतु दिनकरो गोभिरश्वैश्च युक्तो  
स्वास्थ्यं शिक्षा सुमेधा सुमतिशमदमाः मर्त्यमायान्तु पुण्यात् ।  
योगो वेदान्तविद्या ह्यणुकणविविधज्ञानविज्ञानशाखाः  
एधन्तां विश्वसंसद्विविधमथनतो व्यासविज्ञानधाराः ॥८॥

Viśvaṁ navyaṁ ca bhavyaṁ bhavatu dinakaro gobhiraśvaiśca yukto  
Svāsthaṁ śikṣā sumedhā sumatiśamadamaḥ martyamāyāntu puṇyāt |  
Yogo vedāntavidyā hyaṇukaṇavividhajñānavijñānaśākhāḥ  
Edhantām viśvasaṁsadvividhamathanato vyāsavijñānadhārāḥ ||8||

We envision the new world energized by GAUH and ASHWA cosmic rays originated from sun god. This Veda based transformation of Brahmanda and Pindanda causes an emergence of new society with good health, good education and technology. Let positively charged ancient science flow unhindered from the VYASA tradition being discussed in this international conference. || 8 ||

**Prof. Ramachandra G Bhat**

Dean, Academic Programs, S-VYASA University

Dean, Yoga-Spirituality, S-VYASA University





# About The Presenters





**H R Nagendra ME, PhD**  
Vice-Chancellor,  
S-VYASA University,  
Bengaluru, India

Dr. Nagendra, a former space scientist at NASA, returned to his native India, as he says, from mechanical engineering to human engineering “in search of truth.” Dr. Nagendra is at present the President of VYASA, Bangalore, and Vice Chancellor of S-VYASA University. He has authored and co-authored about 35 books on yoga, nearly 35 research papers in engineering and 85 in yoga. He has awards from the Ministry of Health, a Yoga Sri award from BKS Iyengar and a senior Citizens award from New Delhi. He is consultant in Yoga to many Universities in Australia and USA, member of several bodies in the Government of India.

His aim is to combine the Best of East with the Best of West by combining modern scientific research to examine the efficacy of yoga to solve the challenges of the modern era.



**R Nagarathna MBBS, MD,FRCP**  
Dean, Division of Yoga & Life Sciences,  
S-VYASA University,  
Bengaluru, India

Is one of the pioneers in the field of Yoga therapy. She is the Dean, Division of yoga and life sciences and chief consultant at Arogyadhama, SVYASA. Dr Nagarathna did her MBBS from Bangalore medical college, MD in internal medicine from Mysore medical college, Her MRCP and FRCP from edinburg, UK. She has over 40 publications in national and international journals and has 11 books on series of yoga for different ailments published.

She been felicitated with numerous awards such as the: Patanjali Award" (2000) for contributions in the field of yoga by Indian Systems of Medicine and homoeopathy (ISM & H), Ministry of health and family welfare, Government of India, arranged through Director, ISM & H in Bangalore. "Dr PSShankar VaidyaShree" award (2001) by Dr P S Shankar Pratistana, Gulbarga. "Woman of Excellence" award (2003) by the BadaganaduSangha Association, Bangalore, for service to humanity through Yoga Therapy. "Karnataka Kalpavalli" award (1995) for 'Service to women through Yoga' awarded by 'Shaswathi' a women's organization, NMKRV College, Bangalore. "Doctor's Day" award (July 1992) by IMA, Bangalore branch.



**Shirley Telles PhD MBBS, PhD**  
Head, ICMR Center for Advanced  
Research in Yoga & Neurophysiology,  
S-VYASA University, Bengaluru

Fulbright Scholar Dr. Shirley Telles is a leading neuroscientist in yoga research. With an M.Phil. (1989) and a doctorate in neuroscience (1992) she has over 25 years of experience in yoga research. Her PhD work was based on the 'Psychophysiology of yoga practices in health and disease'. She has over 110 research publications in indexed journals establishing her as one of the leading yoga researchers in the world. Currently, she is the Director of Research at Patanjali Yogpeeth, Haridwar and Advisor to Swami Vivekananda Yoga Research Foundation [a deemed Yoga University], Bengaluru. Also she heads the 'Center for Advanced Research in Yoga and Neurophysiology' by Indian Council of Medical Research [2007-2012], Government of India. She is a reviewer for several international journals. She has been awarded ICM young scientist award for "excellence in biomedical research" (Shakuntala Amir Chand Prize).



**N V C Swamy PhD (Civil Eng.)**  
Professor Emeritus,  
S-VYASA Yoga University,  
Bengaluru

Prof. N V C Swamy is a Professor Emeritus, S-VYASA University and Former Dean of Academic Programs and Dean of Yoga and Physical Sciences, S-VYASA University Bengaluru. He is the former Director of the Indian Institute of Technology, Madras. He has guided many MSc students & a PhD in Yoga. In his teachings, he attempts to harmonize modern science with the ancient Indian science of Upanishads and Yoga texts.



**Anita Goel MD, PhD**  
Chairman & CEO,  
Nanobiosym,  
USA

Anita Goel is a Harvard-MIT trained physicist and physician notable for her research at the nano-bio level, particularly for the study of molecular mechanics behind the reading and writing of information in DNA. She obtained her Doctorate from the Physics Department at Harvard University, under the mentorship of Nobel Prize winner Dudley R. Herschbach, with a thesis entitled Single Molecule Dynamics of Motor Enzymes along DNA. She also holds an MD from the Harvard-MIT Joint Division of Health Sciences and Technology (HST).

In 2005, Goel was named to the MIT Technology Review TR35 as one of the top 35 innovators in the world under the age of 35. She is the Founder, Chairman, and CEO of Nanobiosym, Inc. Her work at Nanobiosym has been recognized by a number of prestigious funding awards from the United States Department of Defense.



### **Swami Atmapriyananda**

Vice Chancellor of Ramakrishna Mission  
Vivekananda University,  
Kolkatta

Swami Atmapriyanandaji Maharaj is Vice Chancellor of Ramakrishna Mission Vivekananda University since 2005. Before becoming a monk, Swami Atmapriyananda completed his doctoral programme leading to PhD degree from the Department of Theoretical Physics, University of Madras, Chennai, Tamil Nadu, India, in 1975. Inspired by the ideal of renunciation and service as taught by Sri Ramakrishna, Sri Sarada Devi, Swami Vivekananda and the direct disciples of Sri Ramakrishna, he joined as a Brahmacharin (spiritual trainee) in 1978 at Ramakrishna Mission Saradapitha, Belur Math, the Headquarters of the worldwide organization, Ramakrishna Math and Ramakrishna Mission.



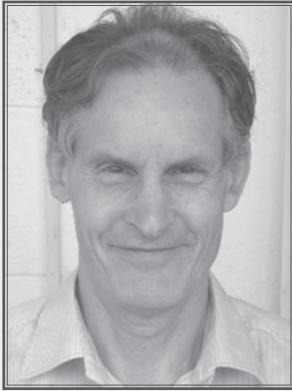
## **Sarada Natarajan PhD**

Director,  
Ramana Maharshi Centre for Learning,  
Bangalore

Dr. Sarada Natarajan, Ph.D. in English literature, is the director for Ramana Maharshi Centre for Learning in Bangalore and has been editor of 'The Ramana Way' published monthly by the centre. She has authored several books including The Ramana Way in Search of Self, Ramana Thatha, and (most recently) The Surging Joy.

She is also director of the dance division of the Centre, Ramana Nritya Kala Ranga, and has scripted and directed nine ballets and several dramas on the life of Ramana.

She also gives regular talks on the Teachings of Sri Ramana, and contributes articles to various journals, reviews books for 'The Mountain Path' and 'Prabuddha Bharatha'. She conducts regular classes on Sri Ramana's Teachings for college and school students, and has been in charge of quiz programs conducted by RMCL.

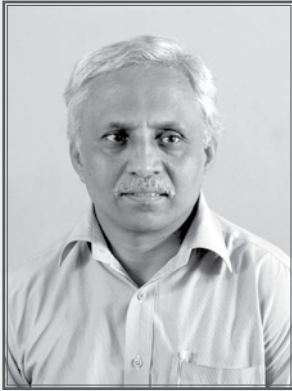
**Alex Hankey PhD**

Professor, Division of Yoga & Physical  
Sciences, S-VYASA University,  
Bengaluru

Dr Hankey was a Scholar of Trinity College, Cambridge, where he gained a Masters in Natural Sciences, specializing in Theoretical Physics. He completed his PhD in the study of critical instabilities and scaling phenomena at the Massachusetts Institute of Technology (M.I.T.) in Boston, Massachusetts, where his advisers included Professor Steven Weinberg and Professor H. Eugene Stanley, and then spent a year at SLAC, the Stanford Linear Accelerator Center. During that post-doctoral year Dr Hankey became a Teacher of the Transcendental Meditation technique of Maharishi Mahesh Yogi, following which he helped establish educational and research institutions in the U.S., Europe and the U.K.

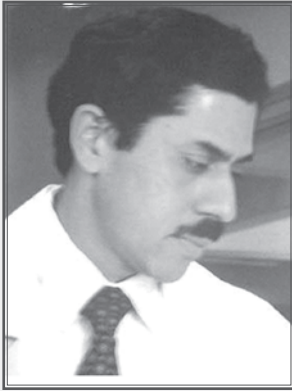
Dr Hankey has been working with the Vedic Sciences since 1973, when he joined the faculty of the newly established Maharishi International University in Santa Barbara, California. He first came to India to help organize the World Congress on Maharishi's approach to the Vedic sciences (Maharishi's Vedic Science) and modern science held in New Delhi in 1980-81. He has worked with Ayurveda, in particular, since 1985.

His interest in Yoga and consciousness is longstanding, and has led to many interesting breakthroughs.



**B N Gangadhar MBBS, MD**  
Professor, Dept. of Psychiatry, &  
Program Director, Advanced Centre for  
Yoga, NIMHANS, Bengaluru

Dr. B. N. Gangadhar obtained MD in 1981 from national Institute of Mental health and Neurosciences (NIMHANS), premier Psychiatry Institute in India. He has been a faculty in the same Institute since then. Currently, he is a professor of Psychiatry. He was also the Medical Superintendent of NIMHANS hospital till Jan 2010. He has published over 240 scientific articles in peer-reviewed national and International journals. His research areas include ECT, rTMS & Yoga, Schizophrenia and Community Psychiatry. He heads an advanced center for Yoga therapy at NIMHANS. He has received the prestigious Sir CV Raman award in 1999 and the BC Roy award in 2010 by the Karnataka Government. He is also the Fellow of National Academy of Medical Sciences. He has guided four PhDs and nearly 20 MD dissertations. Dr Gangadhar is the associate editor of Acta Psychiatrica Scandinavica and a coeditor for the Asian Journal of Psychiatry. He has traveled widely on scientific agenda and has served on organizations like WHO.



## **Thimappa Hegde M.Ch.**

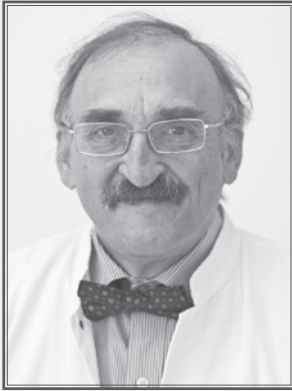
Director

Narayana Institute of Neurosciences,  
Bengaluru, India

Dr. Thimappa Hegde is presently the Director and Senior consultant Neurosurgeon at Narayana Hrudayalaya Institute of Neurosciences. He was earlier the Additional Professor of Neurosurgery at NIMHANS, Bangalore. He had his basic medical and neurosurgical training in India & later acquired specialized training in the United States of America, Japan and the Netherlands. He has authored 30 scientific publications in leading journals and has written one book on the history of neurosciences.

He is the President of the Neuro Spinal Surgeons Association. Dr. Thimappa Hegde has been awarded "Outstanding Citizen Award" by the Lions Club of Bengaluru and was selected as a member of the Group Study Exchange Program of the Rotary International to visit USA and Canada in 1997.

He was invited by the Vatican to speak at an International Meeting in November 1999 at the Vatican City.



## **Christoph Garner**

Director,  
KWA-Klinik Stift Rottal,  
Germany

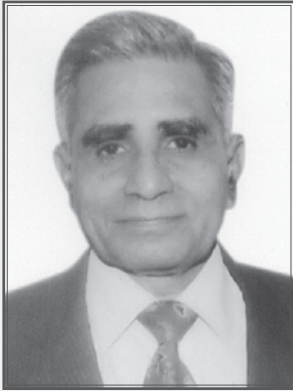
Dr. Christoph Garner born in Munich Germany had completed his degree in Law and Economics and later on graduated in Medicine from the Munich University. After which he had been working as Assistant medical doctor at University Hospital Munich later on he graduated as a neurologist. He took up the post of Medical Director of KWA-Klinik Stift Rottal for Neurologic and Geriatric Rehabilitation in 1992.

He has written various articles in the field of Neurologic Diagnostics and treatment and also he is a Member of various Neurologic and Geriatric associations in Germany. Also he is a Honorary Professor at S-VYASA University, Bangalore, India.



**B.R. Ramakrishna** BSAM, BAMS,  
MSc (yoga), MD (Ayurveda)  
Principal, Sushrutha Ayurveda Medical  
College, Bengaluru, India

Dr. B.R Ramakrishna known for his excellent knowledge in Ayurveda at present is serving as the Professor, Head of the Department, Principal and Advisor to the board of management, Sushrutha Ayurvedic Medical College, Bengaluru. He is also the Director, Chief Physician and Consultant of Ayurveda, Panchakarma and Yoga Therapy at Athreya Health Paradise, Bengaluru, India. He has presented several scientific papers on Ayurveda and Yoga at various National and International symposium. He has developed over 35 ayurvedic products. He is also the director of Vedic Bio Farm and Pradhan herbal company. At present he is also a honorary visiting faculty at Swami Vivekananda Yoga Anusandhana Samasthana, Bengaluru, India simultaneously pursuing his Ph.D. under the guidance of Dr. H.R. Nagendra and Dr. R. Nagarathna.



### **N. Rudraiah PhD**

Honorary director, National Research  
Institute for Applied Sciences,  
Bangalore University, Bengaluru, India

Dr. Rudraiah is an eminent educationist of the 21st century. At present he is honorary Professor of Mathematics, Bangalore University, and Advisor, UGC Centre for Advanced Studies in Fluid Mechanics, Department of Mathematics, Bangalore.

As an outstanding vibrant personality he obtained his doctorate from University of western Ontario, Canada. He had served constantly for 48 years in the field of research in the area of Applied Mathematics and Fluid Mechanics motivating the students. Until now he has published over 324 research papers in National & International journals. He is a author of more than 48 books and monographs. Recently obtaining his doctor of science (D.Sc.), he is also one of the top 100 educators of 2011 and great minds of the 21st century. He has been recently awarded with the International "PLATO AWARD" for Educational Achievement 2011, Great Britain. He had completed several projects sponsored by several agencies including UNO, ISRO and CSIR.

**B Mahadevan M.Tech, Ph.D.**

Professor,  
Production & Operations Management,  
IIM Bangalore

B. Mahadevan is a professor of Operations Management at the Indian Institute of Management Bangalore, where he has been teaching since 1992. He was also the Dean (Administration) of the institute. Professor Mahadevan has more than 20 years of wide-ranging experience in teaching, research, consulting and academic administration at IIM Bangalore and other reputed institutions such as IIT Delhi and XLRI, Jamshedpur. He was earlier Chief Editor of the IIMB Management Review, the premier Indian journal for management educators, consultants and practitioners.

Professor Mahadevan received his M.Tech., and Ph.D. from the Industrial Engineering and Management Division of IIT Madras. He has been consistently rated among the top five professors in IIM Bangalore's teaching and executive education programs. Professor Mahadevan's other interests include researching the possibility of using ancient Indian wisdom to address contemporary concerns. He is active in inculcating these ideas among his students and the youth through various forums and public lectures. Professor Mahadevan was also a member of the Central Sanskrit Board, an advisory body to the Ministry of HRD, Dept. of Education on all Sanskrit policy issues in the country.



## **Manmath Manohar Gharote PhD**

Director,  
The Lonavla Yoga Institute,  
India

Dr. Manmaath M Gharote, Director of the Lonavala Yoga institute, well known for his literary contributions is an eminent speaker who has travelled worldwide giving series of lectures, organizing and conducting workshops on various aspects of yoga. He has very frequently visited Germany propagating yoga to a greater extent. He has been the Author and Co-author of several books in Yoga. He has authored over 23 text books and several articles which have been published in many journals.

Attracted in the field of writing he is a Fellow of United Writers Association of India. Also he is the Member of European College of Teaching Yoga (ECTY), Germany and also a member of project evaluation committee of CCRYN, New Delhi, India.

He having participated in conferences has organized several conferences conducted in Lonavala.

He is a PhD holder from the Mumbai University, India.



**Yogacharya Ananda Balayogi  
Bhavanani MBBS**

Chairman, ICYER and Yoganjali  
Natyalayam, Pondicherry, India

Yogacharya Dr. Ananda Balayogi Bhavanani is Chairman of the International Centre for Yoga Education and Research at Ananda Ashram, Pondicherry, India. He is also chairman of Yoganjali Natyalayam, the premier institute of Yoga and Carnatic Music and Bharatanatyam in Pondicherry. He is son and successor of the internationally acclaimed Yoga team of Yogamaharishi Dr. Swami Gitananda Giri Guru Maharaj and Yogacharini Kalaimamani Ammaji, Smt Meenakshi Devi Bhavanani.

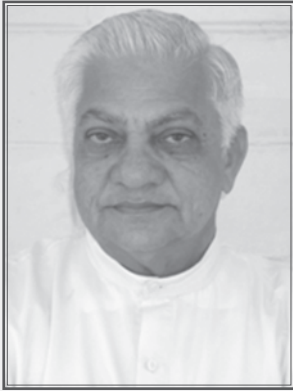
He is a Gold Medalist in Medical Studies (MBBS) with postgraduate diplomas in both Family Health (PGDFH) as well as Yoga (PGDY) and the Advanced Diploma in Yoga under his illustrious parents in 1991-93. A Fellow of the Indian Academy of Yoga, he has authored 18 DVDs and 20 books on Yoga as well as published seven dozen papers, compilations and abstracts on Yoga and Yoga research in National and International Journals.



## Sri Sri Jeyendrapuri Mahaswamigal

Kailash Ashrama Mahasamsthana,  
Bengaluru

Sri Sri Jeyendrapuri Mahaswamigal is the current pontiff of Sri Kailasha Ashrama Mahasamsthana and also is the head for Sri Jnanakshi Rajarajeshwari Peetam, both established by Sri Sri Shivaratnapuri Mahaswamigal, known popularly as Trichy Swamigal. Sri Kailasha Ashrama is a centre for higher learning in Vedic tradition where monks of various orders are trained by Pujya Swamiji. Pujya Swamiji is an erudite scholar of Vedas, Vedanta and other scriptures of the lore. He is an ardent Sri Vidya upasaka and blesses thousands of devotees who take solace in him. He is renowned for his linguistic skills with a mastery over more than 15 foreign languages. Swamiji has organised various international conferences and seminars on Mind and its dimensions at his ashrama. A prolific writer and a magnificent speaker, he travels all around the world.



## **Kambhampati Subrahmanyam**

PhD

Dean, Division of Yoga & Humanities,  
S-VYASA University, Bengaluru, India

Prof K Subrahmanyam is a well-known speaker and orator round the world propagating the human values among the youth with the disciplines of Swami Vivekananda, over which he has got his Doctorate. It was natural of him to inspire and motivate the youth mind with cultured thoughts. A well-known disciplinarian of the present time had been the principal of a Gurukula Based college named after Swami Vivekananda accredited with Category A by NAAC in South India. He had also been the principal of the National Defense Academy, Pune, one of the many meritorious posts in the Government and private sectors.

He having written over 200 articles in standard journals of philosophy, culture, tradition and religion also is the author and editor of over 14 books including the Eternally Talented India-108 facts.

An awardee of many titles including the title 'Parivrajakacharya' is presently the Dean, Department of Yoga and Physical Sciences, SVYASA University, & also president, chairman, advisor and member of many Organizations and Institutions.



## **Sangeetha Menon Ph.D**

**Professor, National Institute of  
Advanced Studies Indian Institute of  
Science, Bangalore**

Prof. Sangeetha Menon is a philosopher with a doctorate awarded for the thesis entitled “the concept of consciousness in the Bhagavad Gita” a major text of Indian philosophy. Her educational background is in biology, philosophy and psychology. A gold-medalist and first-rank holder for postgraduate studies, she received national University Grants Commission fellowship for her doctoral studies for five years. She is a Professor at the National Institute of Advanced Studies, in the campus of Indian Institute of Science and joined NIAS in 1996, with particular interest in consciousness studies in the larger context of sciencespirituality-art interface issues.

Dr Menon has been working in the area of consciousness studies for over eighteen years. She has given numerous lectures and presentations in her country and also in United States and Europe on wide-ranging issues relating to consciousness, mind, and science-spirituality interface issues. “The Beyond Experience: Consciousness in Bhagavad Gita” is Menon’s latest book (2007, Blue Jay Books, New Delhi). Her book “Dialogues: Philosopher meets the Seer” (2003, Srishti Publishers) is a set of nine dialogues with her spiritual teacher HH Swami Bodhananda on socio-cultural issues of contemporary importance and the common concerns of science and spiritual quest.



**Ulrich Berk PhD**

President,  
German Institute of Homa Therapy

Born in 1949 in Germany, Dr. Ulrich Berk has got his degree in the Philosophy of Science, Logic and Mathematics. He has his Doctorate in the study of Philosophy of Science, Mathematics and Psychology. Presently he is working as the Assistant Professor in Konstanz University teaching Logic and Methodology of sciences to students of different faculties.

Since 1980 he is coordinating research on Homa Therapy, in the beginning mainly in Eastern European countries like Russia, Ukraine, Poland, Yugoslavia, etc., since a couple of years he is conducting studies in cooperation with various universities and research institutions in India.



**Dilip K Sarkar M.D., FACS, D.Ayur.**  
Executive Director, School of Integrative  
Medicine, Taksha Institute, Hampton,  
Virginia, USA.

Dilip K. Sarkar, M.D., FACS, D.Ayur., is a retired vascular surgeon, now teaching classes in Yoga therapy, Ayurvedic wellness and Integrative Medicine, combining his forty years of experience in conventional medicine with his knowledge of Ayurveda and Yoga. Dr. Sarkar is a Fellow of the American Association of Integrative Medicine (AAIM) and retired as an Associate Professor of Surgery at Eastern Virginia Medical School and Chairman of the Department of Surgery and Chief of Staff at Portsmouth General Hospital. He is also a Certified Ayurvedic Practitioner and Yoga teacher. Dr. Sarkar now serves on several healthcare boards including the American Heart Association where he is Chair of the AHA "My Life Check" Program. He is a Life Member of the National Ayurvedic Medical Association (NAMA) and serves as a member of the Yoga Standards Subcommittee. He is also a member of the Advisory Council of the International Association of Yoga Therapists (IAYT). Currently he is Executive Director, School of Integrative Medicine, Taksha University in Virginia.



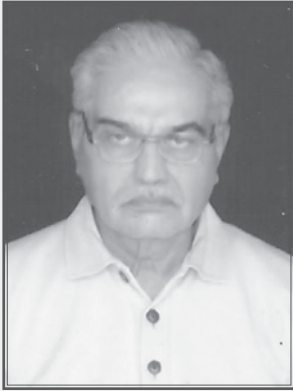
## **Naveen Kalkuni Visweswaraiah**

BNYS, PhD

Associate Professor,

S-VYASA University, Bengaluru

Naveen Kalkuni Visweswaraiah completed a five year medical degree in Yoga and Naturopathy (Bachelor of Naturopathy and Yogic Sciences, i.e., B.N.Y.S.) from University of Mangalore and registered as 'Naturopathy physician & yoga therapist'. Subsequently completed his Ph.D. in 2005 with a thesis entitled 'Psychophysiology of meditation including responses to external stimuli' under the guidance of Shirley Telles, from faculty of Science, Bangalore University, Bangalore. Currently he is the Joint Director of Research and Co-Head of ICMR Center for Advanced Research on Yoga and Neurophysiology and a project under Cognitive Science Research Initiative of Department of Science & Technology. Dr. Visweswaraiah has 30 research publications related to above mentioned 4 areas of research and 4 chapters in books. He is also a Executive Director of 'Foundation for Assessment and Integration of Traditional Health Systems [FAITHS] a registered research trust committed to evidence based practice of Indian medicine and its' integration with the mainstream health care.



**Raghavendra Kulkarni** MBBS, MS  
All India President,  
Arogya Bharati, Pune, India

Dr Raghavendra Kulkarni has born in Bijapura, Karnataka and graduated in Medicine and did his Masters in Surgery. He had worked for the Andhra Pradesh health services and also as an Assistant Professor of Surgery. He was a member of Association of Surgeons of India (ASI). Having Interest in the area of Social Welfare he has served as President and Trustee of various organisations serving the public.



**Prashanth Shetty** BNYS, MSc (Yoga)

Principal of SDM College of  
Naturopathy & Yogic Sciences,  
Ujire

Dr. Prashanth Shetty is Principal of SDM College of Naturopathy & Yogic Sciences, Ujire. He is also Residential Medical Officer, for 200 bedded SDM Yoga and Nature cure Hospital, Shanthivana, Dharmasthala. He is also Member in advisory board for Naturopathy and Yoga, Government of Karnataka, Member of Academic Council and post graduate studies in Ayurveda in Rajiv Gandhi University of Medical Sciences, Karnataka. He has also presented papers in various national and international conferences and has published articles in different newspapers and given speech in All India Radio (AIR). He is also the recipient of awards including Dr B. C Roy Award in July, 2010, Vasista award by SVYASA Bangalore in 2006.



## **Predrag Nikic PhD**

**Founder and President of the  
International Society for Scientific  
Interdisciplinary Yoga Research, Serbia**

Prof. Predrag Nikic, practices yoga and educates young yoga Teachers for decades. He obtained his Master Degree at Department for Psychology and Anthropology of Religion, as well as at Department of Management with the theme Managers' Personality Influence on Organizational Culture and he obtained his PhD in the Influence of Emotional Intelligence. He is author of several books and many scientific papers.

Prof. Predrag Nikic, PhD is founder and President of the International Society for Scientific Interdisciplinary Yoga Research, founder of the Yoga Federation of Serbia, Professor at the International Academy for Yoga Teachers Education (International Yoga Academic Center), University Professor (University Alfa, Belgrade) and International Advisor of the European Yoga Council, International Yoga Federation. He is also member of the Advisory Board of Asian Association of Applied Psychology and member of the Editorial Board of Indian Journal of Psychology and Education.

**Sraddhalu Ranade**

Scientist & Scholar,  
Sri Aurobindo Ashram,  
Pondicherry

Sraddhalu Ranade is a scientist, educator and scholar at the Sri Aurobindo Ashram where he grew up in the care of the late Sri M. P. Pandit. He is presently involved in the production of video programs based on India's cultural roots, and conducts teacher-training programs based on a soul-centered approach to education. He has conducted numerous intensive teacher-training workshops on Integral and value-based education all over India. Over 4,500 teachers from more than 200 schools and colleges have benefited from these programs. He has been involved in various research projects including artificial intelligence based on neural networks, multimedia search and retrieval, and educational tools. He is a frequent speaker at international conferences on science and spirituality and lectures around the world on the yoga teachings of Sri Aurobindo.



## **Raghuram N V**

International Yoga Professor,  
S-VYASA University,  
Bengaluru, India

Born in Khammam in Andhra Pradesh Raghuram completed his engineering from NIT Bhopal worked for some years in various capacities. Raghuram underwent training in yoga and philosophy teachings under several saints for early childhood. Swami Prabhuddhananda and Prof Satyanarayana had profound role to play in his spiritual development.

From the beginning Raghuram and his wife Dr Nagarathna yoga therapy specialist have been associated with Swami Vivekananda Yoga research foundation the Yoga University and helped thousands of patients with psychosomatic problems to come out of their sufferings. Raghuram is actively associated with several medical research projects all over the world which includes a cancer research project in Houston Texas Funded by NIH. He initiated yoga therapy activity in a neurological hospital in Germany, Heart hospital in Turkey etc. he also conducted thousands of spiritual retreats and workshops on stress reduction and trained thousands of yoga teachers all round the globe. For the cause of yoga he travelled more than forty countries.



**Vijay Ramachandra Joshi**

Manashakti Research Center,  
Lonavala,  
Pune

Mr.V R Joshi, specialized in corporate planning and project planning is looking after developmental, planning work and expansion activities. Earlier he has worked in corporate sector at senior managerial positions in various capacities for the past 33 years. He associated himself in fulltime with the Manashakthi foundation mainly as a social obligation actively engaging himself spread the Knowledge and Philosophy at various levels. He is well known for his seminars and workshops for the Students, Parents, Executives and Professionals in various states in India and abroad.



### **Bishal Sitaula PhD**

Dept. of International Environment  
& Development Studies, Norwegian  
University of Life Sciences, Norway

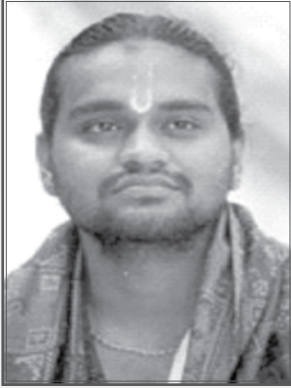
Professor Bishal Sitaula, has more than 20 years of international experience in research, teaching and collaboration in the following topics: ecology, global change, higher education, conflict resolution, and development. From his Norwegian base he has worked with partners in Asia (Nepal, India, Pakistan, Afghanistan, Sri Lanka and Bangladesh), Africa (Ethiopia, Kenya, Tanzania, Malawi) and Western Balkans (Serbia, Monte Negro, Bosnia Herzegovina, Macedonia and Croatia). Prof. Sitaula has published 110 scientific articles, and has been cited 668 times. At present, Prof. Sitaula leads several university projects in South Asia including Conflict, Peace and Development (CPDS) in Nepal and Sri Lanka. He is President of Non Resident Nepali Association NRNA NCC- Norway and Vice Chair of International Association of Human values-Norway (IAHV).



**Sri. Swami Sadyojathah**

Director of the International Affairs,  
Art of Living Foundation,  
Bengaluru

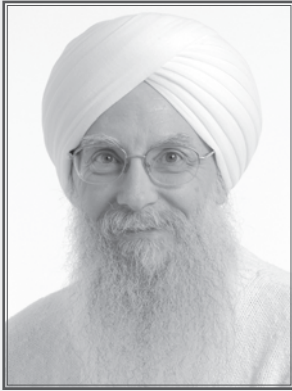
Swami Sadyojathah has been an inspiration to many. He has born in a royal family in Kerala, Swamiji opted for engineering as a student and championed the cause of Marxism in youthful fervour. A chance meeting with Sri Sri Ravishankar, however, changed the course of his life once and for all. Today he is an Advanced Course AOL Teacher, Teacher's Trainer and an active supporter of its various service projects. One of his most noteworthy undertakings has been the rehabilitation of the Tsunami affected parts of Sri Lanka.



### **R Rangan MBA, PhD**

Assistant professor, Division of Yoga  
and Spirituality, S-VYASA University,  
Bengaluru, India

Dr. R.Rangan is a unique man of wisdom and simplicity. He was awarded a doctoral degree in Yoga from SVYASA, Bangalore. He also has a master's degree of management from SIMS, Pune. He is a master of Vedas, Vedic Sanskrit, Upanishads and epics. His main inspiration is Sri Rama, whom he calls as his friend, philosopher and guide. He is a great poet who composed seven thousand verses in samskrit even at the age of thirteen. He also composed beautiful poems in Tamil and English. He has authored many books on the Vedas and other scriptures giving their meaning and practicality for the present age. He translated Shankara bhashya of Bramhasutras in Tamil at the age of eighteen. He wrote a commentary of Bhagavad Gita synthesizing the commentaries of Shankara, Ramanuja and Madhva at the age of twenty eight. He did translation for various Vedic Mantras. He has written a commentary of Brahmasutra in Samskrit. He is an expert in narrating Ramayana in a beautiful way which enthralls thousands of people.



**Sat Bir Singh Khalsa PhD**  
Assistant Professor of Medicine,  
Harvard Medical School,  
USA

For over 10 years Dr. Sat Bir Singh Khalsa, Ph.D., has been fully engaged in basic and clinical research on the effectiveness of yoga and meditation practices in improving physical and psychological health. He has also practiced a yoga lifestyle for over 40 years and is a certified Kundalini Yoga instructor. He is the Director of Research for the Kundalini Research Institute, Research Director of the Kripalu Center for Yoga and Health and an Assistant Professor of Medicine at Harvard Medical School at Brigham and Women's Hospital. He has conducted clinical research trials evaluating yoga treatments for insomnia, addiction, back pain, depression, anxiety disorders, post-traumatic stress disorder, and chronic stress and a yoga program in public schools to determine benefits in mental health. Dr. Khalsa is actively works with the International Association of Yoga Therapists.



**Nisha N. Money MD, MPH, ABIHM**  
Director for Global Health & Integrative  
Medicine, Global Healing Initiatives  
Institute, LLC, USA

Dr. Nisha N. Money, is a preventive medicine physician with a specialization in global health and integrative medicine. Her recent positions include: USAF Flight Surgeon; Medical Commander for Homeland Security and Initial Disaster Response Teams; Chief of US Air Force Fitness, HQ, Pentagon and Head Physician Epidemiologist for DoD's Global Emerging Infections Surveillance & Response (GEIS).

Dr Money has created multi-lateral global health collaborations to strengthen the prevention, surveillance, and response to national disasters, infectious diseases, and neuro-psychological disorders worldwide. She has spearheaded communication pathways and capacity building efforts between the US, WHO, NATO, foreign public/private sector agencies for medical humanitarian missions. Deploying public health campaigns led her to create the 1stSOP agreement and manual for collaborative educational exchanges between US and Indian medical militaries, the development of bridge programs for continuity of care for indigenous populations, integrative medicine training for health care providers, and epidemiological and cultural sensitivity training for foreign hospitals and school systems.



**Shantharam S Shetty**

MBBS, MCPS, FCGP

Chief Research Co-ordinator &  
Secretary, The Yoga Institute, Mumbai,  
India

Dr. Shantharam S. Shetty is a graduate of medicine of Grant Medical college of Mumbai university having his specialization in Family Medicine. He has special interest in Yoga.

At present he is the Secretary and also the chief research coordinator at the International Board of Yoga, Yoga Institute, Mumbai, India. He has co-authored the book 'How to reverse heart disease -The yogic way - Research, Facts and Programme'. He has published many papers in national and international journals and conferences.



## **P Ram Manohar MD**

Director of Research,  
Ayurvedic Trust,  
Coimbatore

Dr. P. Ram Manohar is an Ayurvedic Pharmacologist by training with an MD Degree in Dravya Guna. He is presently the Director of Research at the Ayurvedic Trust, Coimbatore.

He is member of Central Council of Indian Medicine, Research Advisor to National Commission for History of Science, Indian National Science Academy, Member of several committees of the Department of AYUSH, Govt of India including the Sub Committee for Research and Industry for the 12th National Planning Commission.

He was the Principal Investigator of the first ever NIH funded research project to evaluate Ayurveda outside the United States. This study generated preliminary evidence about the efficacy of Ayurvedic treatment in Rheumatoid Arthritis, which has been published in international peer reviewed journals.

He is on the editorial board of International Journal of Ayurveda Research, Journal of Clinical Rheumatology in Ayurveda, Journal of Traditional and Folk Practices and has published papers in international journals and contributed to chapters in books published worldwide and has also published a few books on Ayurveda.

**Ramachandra G Bhat PhD**

Dean of Academics,  
S-VYASA University,  
Bengaluru, India

Dr. RamachandraBhat has done PhD in Sanskrit, vidwan in the Vedanta and Nyaya Philosophies. He is working in unearthing the Vedic science, Vedic Ecology and Cultural history of Bharath through modern research, has carried Indian wisdom of Vedas to the west through his innumerable lectures in Ireland, USA and Australia. Few of his major research works are Mind reading technique and mind transformation technique, Yajna for human health, Upanishadic Learning Methodology, and the one including his presentation, 'A new revelation of vedic hymns' held at the Texas University and is also the author of 7 books in Samaskritam.

Well known for his dexterity, he has been awarded with 'BhavabhutiPuraskarah' by the Government of Madhya Pradesh, India, 'Veda Varidhi' by Veda Dharma Paripalana Sabha Bangalore, India and many more adding his credits.

At Present he is the Dean of Academics, S-VYASA University Bengaluru. He is also the Director of Veda Vijnana Shodha Samsthanam, Chennenahalli, Bengaluru, Convener of Gurukulas of Karnataka and also a Research Guide in Tumkur University. He is also the visiting resource person to Maitreyi Gurukulam, Prabhodhini Gurukulam and Vidyabharati Schools.



**Subhash Sharma PGDM, PhD**  
Dean, Division of Yoga and  
Management, S-VYASA University,  
Bengaluru, India

Educated in India and USA, DrSubhash Sharma holds Ph D from the University of Southern California (USC), Los Angeles and Post Graduate Diploma in Management (PGDM) from Indian Institute of Management, Ahmedabad (IIMA) with earlier background in science. His significant academic contributions towards a creative synthesis of Western and Eastern concepts in management and social thought have received wide attention and acknowledgement by many reputed scholars.

He has authored well known and path breaking books, viz. Creation from Shunya, Management in New Age: Western Windows Eastern Doors, Quantum Rope: Science, Mysticism and Management and Arrows of Time: From the Black holes to the Nirvana Point

Prof Subhash Sharma is on the academic advisory committee of several educational institutions and is also associated with many leading professional bodies.

Prof Subhash Sharma has mentored many and also assisted many in unleashing their creative potential. Through his talks, seminar presentations, creativity workshops and personal interactions, he has popularized many new concepts in management and leadership. He has widely experimented with new approaches to learning and creativity

Presently he is the Dean, Division of Yoga And Management, S-VYASA University, Bengaluru.

**Alexander Medin R**

International Yoga Teacher,  
Norway

R. Alexander Medin was certified by Sri K. PattabhiJois in 2002 within the Ashtanga Yoga tradition. He holds a MA in Sanskrit and Indian Religions (SOAS) and continues to deepen his studies with some of the foremost Sanskrit scholars of Karnataka. Alex is also an avid free-diver who has explored the depths of the ocean and what it means to restrain the breath for longer periods of time. This has helped him tremendously in his study of Pranayama. Prior to becoming a yoga teacher, he was a professional ballet dancer for five years. Before that he was a Norwegian boxing champion. The versatility of his background has created a fascination for people from all walks of life. Alex's foremost enquiry is exploring the integration of yoga in daily life. This is a life-long process of refining our body, mind and senses, and exploring the inmost source of our existence.



**Dr. Nandi Krishnamurthy  
Manjunath** BNYS, PhD  
Joint Director of Research  
S-VYASA University, Bengaluru

Dr. Manjunath is a trained Yoga and Naturopathy physician [1995]. He has involved extensively in Yoga and Naturopathy as well as Ayurveda research leading to comprehensive compilation of scientific literature on Ayurveda and Medicinal Herbs. He has a doctoral degree in Yoga Science with a thesis on 'Yoga and Geriatric Medicine' [2005].

Currently, he holds the positions of Joint director of research at Swami Vivekananda Yoga Research Foundation, Bengaluru. He has worked with Dr Telles for over 15 years co-authoring 18 research publications. He has guided more than 10 MSc & 6 MD students in yoga. He has presented paper on yoga in may national and international conferences.





# **ABSTRACTS**

**KEYNOTE  
ADDRESSES**



## **ADOPTION OF THEORETICAL PRINCIPLES AND TECHNIQUES OF YOGA TO EVOLVE A HOLISTIC PERSPECTIVE IN MODERN PRIMARY AND HIGHER EDUCATION SYSTEM**

H R Nagendra  
Vice Chancellor, S-VYASA University, Bengaluru  
[hrn@vyasa.org](mailto:hrn@vyasa.org)

Compared to earlier 18 conferences held in Prashanti Kutiram, the theme of the conference this time has been the broadest - education, health and peace. The fascinating addresses and presentations in this conference will give glimpses of not only theory but also the research done so far in the field. The key essence of all these aspects through Yoga is based on the Consciousness based paradigm compared to the existing matter based approach. Considering human being as not merely a robot, but as a being with consciousness capable of manifesting tremendous creativity. Education as not merely for bread earning, but for total personality development - physical, mental, emotional and intellectual with spiritual basis on one hand and to develop in them the much needed values featured by the spirit of citizenship, service urge, national awareness and spiritual quest for Reality.

A time has come that we are forced to move towards adoption of holistic Health systems consisting of both modern medical system based on reductionist approach to deal with infectious and contagious diseases on one hand and surgeries for traumatic cases on the other hand; and AYUSH systems based on consciousness based paradigm emphasizing on life style changes to deal with NCDs ( non-communicable diseases). The Pancha-Kosha model will fit these systems into a frame delineating the regions of their efficacy. It is laudable that the Govt. of India has taken up a new approach of Cross cutting the two systems - modern medicine and AYUSH by an integrating process to give the best to all in India.

The world at large is moving far away from global peace. Our defense expenses are growing as fast as NCDs ! World is getting into pieces with no peace. Swami Vivekananda's teaching offer the right direction for world peace by the dictum of Be and Make. Peace is to be achieved inside first and then it will emerge outside. Yoga with its total perspectives at the physical, mental, emotional and intellectual levels with a spiritual basis can offer the right solution to all the three challenges.

**YOGA FOR GLOBAL HEALTH, EDUCATION AND PEACE****Nagarathna Raghuram**

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Bengaluru, India  
[rnagaratna@gmail.com](mailto:rnagaratna@gmail.com)

World Health Organization (WHO) defines health as “a state of complete physical, mental, social and spiritual well-being and not mere absence of disease or infirmity”. Yoga appears to offer the techniques for achieving this as we see in the definition offered by Sri Aurobind who said, ‘yoga is the technique for complete personality development at physical, mental, emotional and spiritual level’. Yoga promotes the spiritual well being that forms the basis of all other aspects of health. It appears that yoga or the spiritual health characterized by self awareness, inner freedom, peace and contentment that offers complete mastery over the inner mental processes and deep rest to the cells is the panacea for all the modern problems in health or education or interpersonal relationship issues or global peace. The famous statement of swami Vivekananda, ‘ each soul is potentially divine; the goal is to manifest this divinity within by controlling nature external **and internal**; do this either by work or worship, psychic control or philosophy and be **free**’ highlights the goal, methodology and the benefits of yoga. Ill-health is physiological imbalance and restoring the balance is the solution (integrated yoga); Lack of right knowledge about ‘my’ true nature is the cause of stress and right knowledge is the solution (jnana yoga); inner violence is the opposite of peace either inside or outside and softening the emotions (bhakti yoga) is the solution.

Science is the tool to validate and check the reliability of the techniques offered by ancient sages for achieving these goals. S-VYASA is celebrating the silver jubilee of its research that has established the efficacy of the holistic modules of yoga culled out from traditional scriptures. An overview of the results of these studies and guidelines for future work to move towards freedom from disease, all round personality development in students and global peace will be presented.

## **YOGA THERAPY EMPHASIZING THE PHILOSOPHY OF YOGA AS AN ESSENTIAL PART OF THE THERAPY**

**Shirley Telles**

Director of Research, Patanjali Research Foundation, Haridwar, India

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Yoga is intended to help an individual progress along the path of spiritual growth. However yoga practice has gained in popularity the world over for the promotion of positive health, and for the prevention and management of disease. Practicing yoga is especially useful for those conditions where the association between the mental state and the disease is well established. Several techniques are included under the term yoga, such as yoga postures, cleansing practices, regulated breathing, and meditation. While practicing these techniques it is ideal for the practitioner to keep in mind and achieve a mental state based on certain principles of yoga philosophy. This presentation would cover how this can benefit different age groups (from school children to older persons), people with different occupations (such as soldiers who are involved in active combat, and sedentary office workers), as well as in specific pre-morbid conditions (e.g., obesity) and in specific diseases. An attempt would be made to explore which parts of the brain may be actually involved in regulating these thought processes and the way in which yoga may be influencing them.

**Key words:** Yoga therapy; Philosophical concepts; Cognition; Emotion

**SWAMI VIVEKANDA'S VIEWS ON WORLD PEACE**

N V C Swamy

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The parliament of religions, held in Chicago between 11<sup>th</sup> and 27<sup>th</sup> of September 1893, marks a high point in the life of swami Vivekananda. He was a delegate to the parliament representing Hinduism. The inaugural session on the morning of the 11<sup>th</sup> open at 10 am with valediction and a Welcome Address by chairman Marie-Smell. The delegates were invited to respond to this address. Hence Swamiji's famous speech is known as the reply to the Address of Welcome.

In this speech itself one finds a very brief presentation of the views of Swamiji on world peace. It is here that he sends out a clarion call to the whole world of Universal brotherhood, harmony and peace. This day is now celebrated in India as Universal brotherhood day.

The same theme is repeated during his reply to the farewell address given on the 27<sup>th</sup> of September. Here again he touches upon the fact that all religions are but different ways towards the final goal. Therefore, there is no need for anyone to convert to another religion, since whatever religion he or she practices is bound to lead to the same Divine Being.

During his stay in United States, Swamiji talked about this theme in several places including churches, synagogues, and in other venues. He came to be known as a apostle of Universal harmony and peace. It is no wonder that the Americans took him to their hearts and showered affection on him.



**ABSTRACTS**  
**INVITED TALKS**

**TRACK - 1:**  
**YOGA FOR PEACE**

## **BHAGAVAN SRI RAMANA MAHARSHI'S MESSAGE FOR UNIVERSAL PEACE**

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What is a universal need? Is it hunger? Is it thirst? Not really and not all the time. What everyone is seeking always is joy or peace. No matter what the apparent nature of the seeking, the main objective is always only to attain joy or peace. Even a primary need like hunger is only in order to regain a state of equilibrium.

Such a state of equilibrium which is ever undisturbed is called 'peace'. Bhagavan Sri Ramana Maharshi explains that each and every one is seeking this peace because it is essentially our nature, this is similar to everyone wanting health because it is natural.

The reason for absence of peace, the reason for restlessness, is because we are alienated from our own nature. Yoga means union. Union with what? It means union with our own nature and hence a re-establishment in peace.

Bhagavan Ramana shows us the simple path of self-enquiry to regain the lost kingdom of Peace, our very nature and realise that we are never away from it.

## **HOW JYOTISH MUHURTA INFLUENCES BIOSYSTEMS: GRAHA SOURCED QUANTUM COHERENCE ACTS ON CRITICALITY STATES OF REGULATION**

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Reported results of biological experiments on Jyotish astrology present scientific theory a serious challenge: How could planetary positions possibly influence biological processes? Three major series of advances in theoretical understanding of life and nature over the past two decades make development of a theory possible, even for this seeming impossibility:

1. Work by Kauffman, Bak, Stanley and others on criticality in complex biological systems implies that healthy regulatory processes are subject to hair-like triggering (chaos) at the molecular level, and can be influenced by complex correlations in many different ways;
2. Work by D'Espagnat, Zurek, Griffiths, Omnes and others, updating the interpretation of quantum theory, suggests that quantum correlations of sufficiently high order are long lived in room temperature macroscopic systems, and can correlate macroscopic processes.
3. Work by Aspect, Zeilinger and others, particularly Zeilinger's quantum teleportation, which shows that quantum correlations prepared in known ways can result in different events in different macroscopic systems being predictably correlated..

We show that, in the same way that conservation of momentum in particle physics results in correlations between pairs (or higher numbers) of outgoing particles in particle accelerator experiments, interactions between quanta/atoms during solar nebula condensation produce ultra high order (i.e. in excess of  $10^{20}$ ) quantum correlations. Conservation of angular momentum focuses these in planetary motion and associated dynamics.

Interestingly, the highly unusual form of the predicted correlations can precisely explain the nature of Jyotish muhurta influences on subsequent events i.e. choice of a process's start-time has enduring effects on process outcomes. All this suggests that Jyotish effects result from quantum teleportation-like influences, correlating various different aspects of planetary positions with precisely defined properties of each planet.

## **QUIET YET DESIROUS OF GLOBAL PEACE: BHAGAVAD GITA ON THE YOGI'S MIND**

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In today's world on one side we have unprecedented growth in the areas of science and technology. And on the other side there are various groups and communities raising the importance of recognising the wellbeing of the person. The Bhagavad Gita presents the apparent conflict between outside noise and inner peace, desire and desirelessness, action and inaction. Why it is important to discuss these seeming conflicting duals is because today we live in a world which has two competing interests – development in science and technology, and preservation of the essential qualities that make us a human. The Yogi of the Gita is constantly challenged by the duals, and the final fruit of creative expression and self-actualisation happens in the midst of a dynamic space. Arjuna represents the mind of each one of us, tormented and dissuaded by the conflicting options of having to face the outer noise and to be steadfast within the inner silence. For Gita, peace is intrinsic but experienced in the midst of extrinsic commotion. How does Gita and Bhagavan Krishna help us to understand the nature of desire and desirelessness, and in the process achieve peace which pervades and influences our neighbourhood – this will be the theme of this lecture.

**AGNIHOTRA AND HOMATHERAPY -  
THE EFFECTS ON HUMAN HEALTH AND ON HUMAN MIND**

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Pollution is the biggest problem of our time. Some recent study in England showed that now already 40% of diseases are linked to pollution. Our health and our happiness depend on the harmonious flow of Prana, of life energy. Because of pollution, this harmonious flow of Prana is obstructed and therefore body and mind of people suffering.

Even methods of Yoga and Pranayama do not give the same effects in a polluted atmosphere as they used to give say 30 years ago. Agnihotra is a means to purify our atmosphere. A channel is created through which Prana energy which lies above the atmosphere can come down. This has a tremendous healing effect on body and mind. There are numerous reports of people healed with this method in different countries on all the continents of this planet. Most remarkable was that after the Bhopal disaster more than 10.000 people died because of the poisonous gases set free. All the people in Bhopal who performed Agnihotra did not even get seriously ill. Double-blind studies Dr. Barry Rathner from U.S. has conducted at University of Pune demonstrated positive of Agnihotra in human behaviour and in emotional balance. Therefore Agnihotra is used in several countries as the basic tool of Homa Psychotherapy. Especially impressive is the use for a drug deaddiction programme.

## VEDIC WISDOM FOR GLOBAL PEACE

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इन्द्र आशाभ्यस्परि सर्वाभ्य अभयं करत् ।

*Indra āçābhyaspari sarvābhya abhayam karat*

“Let the Divine offer fearlessness to all the beings in all corners (Āg Veda, 2.41.12.).”

मित्रस्याहं चक्षुषा सर्वाणि भूतानि समीक्षे मित्रस्य चक्षुषा समीक्षामहे मित्रस्य मा चक्षुषा सर्वाणि  
भूतानि समीक्षन्ताम्

*Mitrasyāham cakñuṣā sarvāṇi bhūtāni samékhñe mitrasya cakñuṣā  
samékhñāmahe mitrasya mā cakñuṣā sarvāṇi bhūtāni samékhñantām*

“Let me see all beings with the eye of love. Let us see with the eye of love. Let all beings see me with the eye of love (Çukla Yajur Veda, 36.18).”

In the Vedas offering fire-sticks and ghee to the fire that is kindled in the altar is a symbolic representation. Fire in the altar represents the wish or will of universal well being. The fire sticks that are offered to the fire represent the deeds that we offer to that will. Ghee represents the thoughts. The thoughts and deeds which we offer generally to our own ego, should be offered to the will of universal well being. By this, the narrowness of our mind, which is ego, gets gradually thinned. Expansion occurs in mind. This is the spiritual practice in the Vedas through which one enjoys the freedom within. This is the way for global peace in the Vedas.

## **GLOBAL CRISES AND NEED FOR WISDOM AND PERSONAL TRANSFORMATION**

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The growing need for interdisciplinary work across the natural, social and noetic/yogic science demands that each achieve some common understandings about current and emerging global crises as multidimensional issues and in linked contexts. Among others, materialism, militarism, and, severe erosion of human values are widespread problems for our planet. Naturally, materialism will increase militarism because extreme materialism creates greed, attachment, ego etc, which eventually leads to militarism. Individualism is also increasing rapidly. A sense of collectivity and co-existence is becoming something which is only seen in books. It is seen that so-called intellectuals, without insights of higher dimension of creation, are also selfish; and are often disconnected from society and true nature of reality. Their merely personal progress takes them away from the true beauty of life. It is obvious that education which is not turned into wisdom in the end creates this kind of isolation and selfishness and collectively different form of global crises. Therefore any global challenges should be understood in linked context as they are rather complex phenomena influenced by different factors and processes at various scales. To understand this better, one must first of all identify the linkages between human greed and its manifestation in various forms such as biodiversity losses, climate change and land degradation. All these three major components of global environmental challenges are linked together in a complex cybernetics network of feedbacks. If one component is altered, it will produce a change in the other components in more complex way than presently understood. To address these problems at their source will require understanding of human desires and how this can be

balanced using yogic science for social transformation. There are international initiatives for enhancing coordination between the individual/social behaviours and the links between climate change, biodiversity and desertification. There are also research challenges for unfolding the linkages between environment and security, particularly between environmental causes, such as natural disasters, water shortages and famine, and their effects on the security of people and societies. The issues of environmental degradation leading violent conflict are a recent focus of scientific investigation. One of the effects of environmental degradation is the large displacement of people creating a large flux of environmental refugees. All these problems never rain from the sky or grow from the earth. Precisely speaking, all the problems are created primarily by the restless human mind. Unless we re-cultivate wisdom in the the human mind and change the attitude of every human, problems will be never solved; human beings will always be unsafe in their own world. Therefore, Yoga and meditation are quite essential regardless of religion and nationality. Only education coupled with meditation can produce a perfect human being who can be the solution and inspiration to the global challenges. I will present examples of our recent efforts to bring wisdom and personal transformation in higher education through coordinated network of scientist from Europe and South Asian region as a part of ongoing Norwegian funded collaboration in Global change and conflict, peace and development program in South Asia region.

**TRACK - 2:**  
**HOLISTIC HEALTH CARE**

## **NEUROBIOLOGY OF YOGA THERAPY IN PSYCHIATRIC DISORDERS**

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Psychiatric disorders have been extensively explored as candidates for therapy with yoga. Robust success has been observed with yoga therapy in these disorders. The area that is explored scantily includes the neurobiological mechanisms of action. In this paper I will present some neurobiological evidence for yoga effects in psychiatric disorders. A definitive answer regarding the therapeutic mechanisms of yoga in these disorders is difficult to establish.

Our initial studies were on Sudarshan Kriya Yoga (SKY), an intervention proposed by Sri Sri Ravishankar of the Art of Living foundation. SKY produced significant antidepressant effects that nearly compared with available antidepressants. SKY also reduced depression symptoms during alcohol withdrawal. Acutely SKY elevated serum prolactin (a similar but larger effect also seen in electroconvulsive therapy) in patients with depression. SKY also resulted in lowering of serum cortisol in patients undergoing treatment for alcohol withdrawal. Interestingly, the potency of antidepressant effect directly correlated with its effect on cortisol-reduction. This may suggest a de-stress mechanism of SKY that brings in both benefits. SKY improved a neurophysiological deficit in depressed patients. The amplitude of P300 event related potential that was smaller in depressed patients rose to the levels of healthy controls after three months of SKY therapy. The mechanisms by which these neurobiological changes produced, are yet to be explained.

## **PRESENTING VEDANTA FOR A SCIENTIFIC MIND**

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Vedanta deals with explanation of Consciousness, based on the experiences and knowledge of the Seers who have intuitively realized the truth during their meditation and altered state of consciousness - samadhi. Vedanta is the practice for realizing our real nature as Consciousness. The philosophy of Vedanta in general and Advaita Vedanta in particular, maintains that there is only one Reality - Absolute Consciousness (also called as Brahman, Atman, God, or Self). Out of ignorance we perceive this One Reality as multifarious. This cosmic ignorance is called Maya. With spiritual practice one is able to transcend the limitations of body and mind so as to become one with the Reality, to know or experience the Truth. This is the aim of human birth. Scores of great souls have realized the Self in this manner, and of course, it is also our right too. To realize this goal, certain spiritual practices are undertaken known as Yogas, viz. Raja-Yoga, Jnana-Yoga, Bhakti-Yoga, and Karma-Yoga. Vedantic truths that “I am not the body but consciousness that functions through my body “I am immortal, eternal, formless, all pervading like space, and that the world I perceive is not as real as I think it is” are too esoteric for a common man to understand and realize. “Advaita Vedanta would surely be misunderstood if it is thought that it considers the universe unreal in this crude sense (of illusion -maya)”.

Vedanta has to be presented as ‘O man, the world is not what it seems to you now. It is infinitely more glorious, infinitely more real, infinitely more lovable and enjoyable than you take it to be...

“Advaita Vedanta is the hope of the present age”. For it alone can successfully transform the dominant tendencies born of science and, through this, rehabilitate morality and religion.

We have to present it in a way that the scientific mind will accept and explore it and make it a way of life.

## **HOLISTIC NEUROLOGIC REHABILITATION INCLUDING YOGA-THERAPY**

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Brain malfunction causes deficits in body functions, emotions, motivation and cognitive functions.

Acute treatment is aimed at the restoration of damaged brain structures, whereas rehabilitation tries to normalize body, mind, spirit and social functions to reintegrate the patient into his social network.

Movements are learned and stored like words in the cortical structures. This fact belongs to the physical movement itself as well as the purpose of the movement. To restore the function of a paralyzed limb, learning is the predominant way to restoration. Learning means to increase the density of the neuronal network. A child up to the year of 8 can do this by increasing the number of neurons, after the age of 8 only increasing the synaptic network is possible.

So in neurologic rehabilitation not physical training is the most important but giving best opportunities for learning new movements and capabilities. Holistic rehabilitation therefore not only includes conventional physiotherapy but is also aimed to improve motivation, concentration and alertness.

In holistic rehabilitation we therefore use additionally to conventional methods many other mental training methods like Yoga, music-therapy, mental training by special imaginations, psychotherapy and specific neuropsychologic training methods.

Concerning Yoga-therapy we have found, that besides conventional practices like specific asanas and pranayama techniques PET (Pranic energisation technique) as it was developed by SVYASA University in Bangalore is very helpful especially to improve the function of paralyzed limbs.

## **AYURVEDA FOR GLOBAL HEALTH**

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Ayurveda a comprehensive system of health care, being practiced in Indian subcontinent for more than 5000 years, places equal emphasis on the body (Sharira), mind (Manas) and spirit, (Chethana) and it strives to restore the innate harmony of the individual. It upholds the theory of homeostasis between environment (Loka) and human being (Purusha). It considers basic cause of diseases to improper lifestyle, improper use of intellect and influence of the changing season. The Walton Committee (appointed by the House of Lords, UK) places Ayurveda in the Group – 1 scientific category of professionally practiced Complementary & Alternative Medicine. It is duly recognized by WHO. Ayurveda also enjoys recognition, as a system of health care in countries like Sri Lanka, Nepal, Mauritius, Hungary, Germany etc. In US, Ayurveda is considered as Complementary and Alternative Medicine (CAM). Post World War II, developments in medical science could control and limit spread of diseases like Cholera, Plague etc. effectively. But of late a new and more aggressive virus like entity termed 'Life style induced disease' is raising its head and causing concern for humanity. It is due to stress caused by working under pressure, not following proper food, habits, and thoughts and etc.. Major life style induced disease entities concerning humanity are Diabetes, Hypertension, Depression, Obesity, Insomnia etc. These so called 'Life style induced diseases' are affecting equally to developed, developing and under develop worlds, may be in varied intensity .This situation demands to introspect the prevalent medical practice and question its efficiency in tackling them and also poses question for the need of an alternative with more holistic and integrated approach. Ayurveda which includes the healing concepts and approaches of the major CAM namely AYUSH systems and particularly of yoga & nature cure can provide a solution to the crisis.

**KEY WORDS:** Ayurveda, Life style diseases, CAM, AYUSH, Yoga and Naturopathy

## **YOGA FOR GLOBAL HEALTH: AN AMERICAN EXPERIENCE**

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On September 11, 1893, Swami Vivekananda (1863-1902) introduced Yoga to America through his speech to the Chicago Parliament of World Religions. At that time, Yoga was a spiritual practice known only to a few leaders and academic institutions. Paramahansa Yogananda's (1893-1952) visit to America in 1920 and his teachings of the Self-Realization Fellowship introduced Yoga to the broader public. During the 1960's, a large number of Indian Yogis like Maharishi Mahesh Yogi (1917-2008), Swami Rama (1925-1996), Swami Satchidananda (1914-2002), and Swami Kripalvanandji (1913-1981) visited America at the invitation of various American celebrities. These Yogis introduced modern day Yoga to America first through physical practices such as Asanas, Pranayamas and Meditation, and then through the spiritual practices of the eight limbs of Yoga. The American public started noticing the physical benefits of Yoga, and a few physicians started looking at its therapeutic potentials. During the 1967 Transcendental Meditation Movement of Maharishi Mahesh Yogi, Herbert Benson of Harvard University Medical School studied physiological parameters, like changes in heart rate, blood pressure, respiratory rate, oxygen consumption, skin and rectal temperature, and increases in the theta brain wave. Finding positive results after multiple clinical studies, Benson published the book "Relaxation Response" in 1975, which became an instant national bestseller.

Yoga studios started to emerge and offered Yoga as therapy for chronic ailments. Yoga gained acceptance in the management of stress and improving health and well-being. Many physicians started recommending Yoga to patients with back pain, arthritis, diabetes, heart disease, depression and other chronic conditions.

Today 20 million Americans are practicing Yoga. The American population spends \$5.5 billion annually on Yoga. Larry Payne and Richard Miller, two prominent Yoga Therapy teachers, established the IAYT (International Association of Yoga Therapists) in 1989 to bridge the gap between Yoga and health care. Today IAYT has around 3,000 members, publishes a yearly peer-reviewed and PubMed approved journal, *International Journal of Yoga Therapy*. The association also publishes a triennial journal *Yoga Therapy Today* with in-depth articles on the philosophy, theory and practice of Yoga Therapy. IAYT brings Yoga Therapy to its members through annual conferences, SYR (Symposium on Yoga Research) and SYTAR (Symposium on Yoga Therapy And Research). Medical schools incorporated Yoga as therapy by developing Integrative Medicine Departments. Today 90 out of 130 American medical schools have Integrative Medicine Departments. Yoga Therapy became a part of Mind-Body Medicine, when the NIH (National Institute of Health) established NCCAM (National Center for Complementary and Alternative Medicine) in 1998. Yoga Therapy is used as part of therapeutic protocol in top-ranking America hospitals like Massachusetts General Hospital, Cleveland Clinic (through its Lifestyle 180 Program), Duke University Hospital, University of California, San Francisco Medical Center (through Dr. Dean Ornish's program about the reversal of heart disease), and the MD Anderson Cancer Center in Houston. In these medical centers, Yoga Therapy is used to treat diseases and maintain health. In 2010, the National Cancer Institute approved a \$4.5 million grant to the MD Anderson Cancer Center, in collaboration with the VYASA (Vivekananda Yoga Anusandhana Samsthana), to conduct a study of the effects of Yoga on the quality of life in patients with breast cancer. This is the largest grant ever awarded in Yoga research in America. NCCAM has approved multiple grants to conduct Yoga Therapy research.

## **INTEGRATIVE MEDICINE IN THE CONTEXT OF GLOBAL HEALTH**

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Non communicable diseases; neurodegenerative diseases; all forms of cancers and mental health issues are and will be the major health concerns. The impact in terms of mortality and morbidity has resulted in UN Summit and a special inter-Governmental resolution to curb the death toll resulting from these chronic diseases. About 60% of the death results from NCDs occur in developing countries thus leading to a vicious cycle of ‘deaths from NCDs and worsened poverty’. While medical and surgical interventions are effective, it is now understood and amply evident that lifestyle interventions with an emphasis to mind-body medicine strategies are essential to offer a comprehensive care for NCDs. This presentation attempts to offer an (i) overview of research evidence for an effective integration of lifestyle intervention with that of conventional care; (ii) successful initiatives of integrative medicine at the leading medical schools across the World and (iii) an overview of global policy and regulatory initiatives in establishing integrative medicine. Globally, specialists in leading medical disciplines [viz., endocrinology; cardiology; neurology; rheumatology; psychiatry and oncology] strongly recommend. Some of the larger questions that are confronted by medical community are (i) functional integration of evidence based traditional medicine; (ii) trained professionals to deliver the integrative medicine and (iii) safety and efficiency issues related to Integrative medicine. Some of the answers to these questions will be discussed in this paper.

## **NATUROPATHY BASED LIFESTYLE IN THE MANAGEMENT OF NON-COMMUNICABLE DISEASES**

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There is a growing awareness today about health and fitness among the masses. Large sections of health conscious people have started reviewing and questioning the modern lifestyle. Most healthcare specialists today believe that many diseases from which the mankind is afflicted are the outcome of unhealthy living, the food habits and the increasing pollution in the environment. That's the reason why Natural living has been highly emphasized upon.

Naturopathy—also called naturopathic medicine—is a medical system that has evolved from a combination of traditional practices and health care approaches popular in Europe during the 19th century. Naturopathy is a simple, unsophisticated, accommodative system of health care when compared to other systems of medicine. Most of the principles and practices of naturopathy like Morbid Matter theory, fasting, nutrition, dietetics, cleansing acts, massages, exercises etc and the concepts of vitality, Panchamahabhutas (five great elements) were familiar to our Vaidyas, and Rishis and have been in use in our country right from the beginning of mankind. There has been a revival of interest in Naturopathy system of healthcare especially in the prevention and management of chronic lifestyle-related non-communicable diseases and diseases for which there are no effective drugs in the modern system of medicine. India is currently undergoing demographic and lifestyle transition which will result in the increasing prevalence of non-communicable diseases and lifestyle related disorders. Naturopathy can play an important role in the prevention and management of these disorders.

Therefore the drugless practices like naturopathy and yoga are a key to global health thereby promising a healthy living.

**Key words:** Naturopathy    Non-communicable disease    Lifestyle

## **UNITY OF ENERGY CONCEPTS IN SCIENCES-BASIS OF HOLISTIC APPROACH**

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The interface between science and spirituality stands between the unexperimentable and imperceptible Soul and Mind on one side and perceptible and experimentable energy and matter on the other. These two have to be as a continuum, since they affect each other. The new branch of 'Psychoneuroimmunology' in the medical field is an example of an attempt at establishing this continuum.

This presentation, is based on the accepted concept, both in spirituality and science, that everything has emerged from one energy (subtle or gross). So there is only one energy in this universe, which can project itself as a 'Positive' or attraction energy (Akarshana), or as a 'Negative' or repulsion (Vikarshana) energy, and this energy goes into phases of activity and quiescence alternately, in macro and microcosm.. These two phases of energy, if considered separate, always exist together, always apparently opposing each other, but are complementary, and one is waxing as the other is waning. These two energies when balanced, are quiet but potent one energy as in neutron. The two phases can also be called as 'expansion' or outgoing and 'contraction' or in drawing.

These phases of energy (or types) can be identified in different fields of science- from spirituality to biological science in different terminologies, like Rajas-tamas, Electricity-Magnetism, Anions-cations, Alkali-Acid, and Kapha-pitta, etc. The present talk centres around this concept, and that all activities in the universe are based on the interaction between these two.

Among the medicines in allopathy, ayurveda, and homeopathy, some work at matter level through chemical energy, and some work at energy level. Non medicinal approaches work at the energy levels, subtle and gross, as in naturopathy and Yoga. Nevertheless, all work through different bandwidths, amplitude and wavelengths of energy to be specific for the given tissue and the imbalance to set back to balance and health.

**THE RESEARCH AND PRACTICE OF YOGA AS THERAPY:  
AN AMERICAN EXPERIENCE****Sat Bir Khalsa**

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The pace and demands of modern society are subjecting many individuals to the burden of continuing and often chronic stress at both work and home. Unmanaged stress is now believed to be one of the most consistent predictive factors contributing to the development of mental health and behavioral problems in both adolescents and adults. Statistics suggest that the majority of adolescents and adults will experience a mental health disorder in their lifetime. Although personal resources such as mastery and self-regulation skills are known to be consistently associated with enhanced resilience to the onset of mental health disorder episodes, our society has no established training or education programs in our schools or workplaces for stress management. Yoga is a comprehensive and holistic set of mind-body practices including physical exercises and postures, breathing techniques, relaxation strategies, meditation/mindfulness practices and applied psychology/philosophy. Research studies have shown that yoga is highly effective in the management of acute and chronic stress both psychologically and physiologically. Furthermore, a growing body of clinical research trials has indicated that a variety of mental health conditions can be effectively managed with therapeutic application of yoga practices. This presentation will overview the evidence for the preventive and therapeutic application of yoga for mental health and the potential underlying mechanisms of its action.

## YOGA FOR CORONARY ARTERY DISEASE

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The modern era industrialization and globalization have brought in a pronounced change in our life style. The stress, faulty diet, wrong habits and sedentary lifestyle have given rise to metabolic problems like dyslipidemia, and obesity. This has resulted in steep rise of life style related chronic diseases such as diabetes, hypertension, and coronary artery disease (CAD).

Increased intrinsic neurohormonal activity has been associated with increased predisposition to ischemic heart disease. The stress has major effect on the autonomic nervous system (ANS). The ANS is involved with virtually all the disease conditions (Clinical autonomic disorders- by Philip A. Low). The imbalance in the ANS system can cause physio-pathological changes in human body. By regular practice of yoga ANS get regulated. The sympathetic overdrive in disease conditions get compensated by parasympathetic predominance in yoga practitioner.

Ornish et al., has showed short term and long term benefits from yoga based lifestyle on coronary lesions and clinical manifestation of the CAD.

Manchanda et al., has shown similar benefits in Indian population. In this randomized controlled study patients with angiographically proven coronary artery disease who practiced yoga exercise for a period of one year showed a decrease in the number of anginal episodes per week and decrease in body weight.

Jaydeva et al., in a similar study done at Yoga Institute Mumbai with more number of Indian urban patients, has again proved the definite benefit from the yoga based life style.

## **EVIDENCE BASED AYURVEDA FOR GLOBAL HEALTH**

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With the growing interest in Complementary and Alternative Medicine, traditional health care approaches like Ayurveda are also coming into the limelight world over. Even as the general public is turning towards such approaches to healing, the scientific community and regulatory authorities are demanding evidence that can vouchsafe the safety and efficacy of whole medical systems like Ayurveda.

Ayurveda has traditionally projected itself as a Suddha (safe) and Siddha (efficacious) system of therapeutic interventions (cikitsa prayogas) that has been evaluated by rigorous methods of validation. The Caraka Samhita, one of the earliest textbooks on Ayurveda advocates an evidence-based approach to clinical practice, which is perhaps unprecedented in the history of medicine.

On the other hand, it is widely believed that Ayurveda is an empirical approach to healing that is not backed up by systematic research and evidence. It is often emphasized that appropriate research initiatives have to be launched to back up traditional knowledge with scientific evidence. In the bid to rediscover Ayurveda as evidence based approach to health care, we have to reconstruct the traditional approach to building clinical evidence and reinterpret and present it in modern scientific terms. In the process we have to also identify gaps and develop methodologies for research that are in tune with the epistemological foundations and the holistic approach that characterizes Ayurveda. This paper will give an overview of research in the tradition of Ayurveda, the challenges thrown by modern science, the current status and gaps as well as the roadmap to the future.

## MAJOR ACHIEVEMENTS OF VYASA

1. VYASA has spread in 56 cities in India and 36 countries across the Globe.
2. Holistic Research Health Home called “Arogyadhama” in Prashanti Kutiram residential Campus with 250 beds. Treated over 2,50,000 patients with different ailments in India and abroad, through Yoga Therapy, Ayurveda Naturopathy and Modern medicine.
3. Successfully organized 18 International Conferences and on yoga research and its applications, numerous seminars and workshops on yoga in India, USA, Singapore, Australia, etc.
4. S-VYASA is a unique Yoga University (declared as deemed-to-be University under section 3 of the UGC Act, 1956). About 100 MScs and 10 PhDs have come out and about 500 students are now in S-VYASA.
5. We are now an ISO: 9001-2008 certified - the first Yoga University.
6. Five unique divisions have Certificate, Diploma, Bachelors, Masters and PhD programs with syllabus combining the best of the East with that of the West
7. The Govt. of India, Ministry of Health & Family Welfare, Dept of AYUSH has accorded Center of Excellence in Yoga for S-VYASA. It has an Advanced Center for Research in Yoga & Neurophysiology sponsored by Indian Council for Medical Research (ICMR), Council of Scientific & Industrial Research (CSIR).
8. Received research grants by several national and international granting agencies like DST, DSIR, ICMR, AYUSH, DRDO, NIH, etc.
9. Published 182 research papers in National and International indexed, Peer-reviewed Journals.
10. Published 18 books and DVDs on therapeutically applications of Yoga on Modern Stress related ailments and 26 books and DVDs on Advance Yoga techniques, Pranayama, Yoga in Education, etc.
11. MOUs with about 20 leading universities and research centers all over the world for conducting collaborative research in Yoga have been signed. Research projects with the University of Texas M D Anderson Cancer Center, USA; The Central Michigan University, USA; East Tennessee State University, USA; Japan Vivekananda Yoga Kendra, Yonago, Japan; Royal Melbourne Institute of Technology, Australia and Memorial Hospital, Department of Complementary Medicine, Istanbul, Turkey are in progress.
12. Our online International Journal of Yoga (I-JOY) has reached PubMed status, the only journal of Yoga to reach this distinction.
13. VYASA received the Karnataka Rajyotsava award for the year 2010.
14. VYASA has taken a “Stop Diabetes - a Nationwide Movement” to make India not to become a capital of Diabetes through Yoga.

**TRACK 3:**  
**YOGA AND EDUCATION**

## **MATHEMATICAL MODELLING OF SMART MATERIALS TO UNDERSTAND THE IMPACT OF STRETCHING OF MUSCLES DUE TO HATH YOGA**

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In these days in most countries of the world yogic exercises are becoming very popular because they improve individual's physical, mental, and spiritual capacities. For example, Yama and Nigama purify our body by cleaning internally and reducing the unrest of mind. Yogic exercises are divided into two major parts, Hath yoga and Raja yoga.

Hath yoga deals with physical, mental and intellectual aspects of the human body where as Raja yoga deals with intellectual and spiritual aspects of mind. In this paper, we are mainly interested in physical aspects of human body and hence we briefly discuss Hath yoga. Hath yoga consists of mainly stretching exercises like Yama, Nigama, Asana, Pranayama and Pratyahar. For instance when there is a difficulty in forward bending, Naukasana is done to strengthen the back muscle. It helps to activate vertebral column and spine by increasing efficiency and elasticity. For further details one may refer to Chaturani et al (2000) and Yogendra (1956).

During Hath yoga if oxygen consumption becomes low, the current in our Mathematical Modelling of the smart material will sense it and the force activates in such a way to increase the maximal oxygen uptake capacity. The mathematics behind these aspects is briefly explained in the paper. Hath yogic (see Ray 2000) practitioners are of the opinion that stretching of muscles may cause onset of fatigue and exertion. The smart material properties developed in this paper will helps to overcome these undesired effects and helps to improve the body flexibility and delay the onset of fatigue and exertion and increases endurance.

## **ROLE OF YOGA IN ADDRESSING PRODUCTIVITY & PERFORMANCE CHALLENGES OF CORPORATE EXECUTIVES**

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The 21st century is characterized by advances in science and technology thanks to numerous inventions in the preceding century. The ICT paradigm has narrowed down distances, brought communities together and accelerated the pace of creation and exchange of new ideas. These advancements have ushered in a new era of material progress unheard of before. On the other hand, people working in organizations, increasingly experience greater stress than before. Increasing incidences of psychological counselling, treating mental diseases and problems of mental depression are being reported. This invariably leads to job burnout. It not only reduces productivity but also poses performance challenges leading to health related problems.

Patanjali's Yoga Sutras outline a skilful way of conducting life that fosters moderation and harmony. Several management researchers have conducted a number of studies to demonstrate how yoga practices can help individuals cope with stress, manage difficult working conditions, lead a meaningful life and develop a sense of self satisfaction. It is adequately clear now that adoption of yoga way of life can bring about better job satisfaction, affective organizational commitment, organizational citizenship behavior, and goal orientation of managers. Yoga as a discipline helps individuals address personnel issues beyond the narrow domain of motivation. Past work by several scholars suggests that yoga way of life significantly impacts leadership traits.

Currently yoga methods are merely taught as a narrow tool for stress management and are often viewed as a physical exercise. It is worthwhile to provide a systematic exposure of yoga to all managerial cadres of companies. This would help them become better self-aware and self-regulated individuals, with a proper perspective of life.

## **YOGA FOR GLOBAL EDUCATION: INSIGHTS FROM TRADITIONAL TEXTS**

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Education is a broad term as comprehensive as yoga. Yoga and Education both basically convey the same idea. Education is a process of growth, development and constantly adding something to the knowledge that enables individuals to make the best use of the faculties that they have been endowed with. Yoga is a comprehensive term which really means 'integration of personality at all possible levels'. Human wellbeing depends upon healthy mind and healthy body. If the health is defined as a condition of optimum integrated functioning and relational exchange at all levels of consciousness, healing must take all aspects of wellbeing into account. Yoga is basically a philosophy, a way of life and thinking. It embraces aspect of existence, spiritual, emotional, mental and physical. It is a system of conscious evolution or self-improvement which has been cherished over thousands of years of its documented existence. In fact all self-organizing activities are mental activities. Therefore, the process of sick and cure are essentially mental processes. Mental activity has several levels of working but we are not aware of them. The concept of health in Yoga is very wide and is stated in terms of the absence of factors that disturb the mind. It is the theory of Yoga that mind responsible for the bondage and liberation, for the health and disease and for happiness and unhappiness. The concept of health in Yoga is explained in terms of Integration and Harmony, Balance for which they use the words Samadhi or Samatva. As against this they use the term "Vyadhi" which etymologically means disintegration or disease. To deal with the problem of human life, yoga education has an approach to the body, it has an approach to the mind and it has also an approach to the spirit. These three approaches are not isolated from each other. Yoga education has an integrated approach. Not clearly understanding this approach often a particular aspect of yoga is denounced.

**Key words:** Yoga, Vyadhi, Samatva (integration)

## **YOGA AND THE EDUCATIONAL PROCESS**

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Each individual has different inherent potentialities that need to be cultivated for their ultimate manifest expression. There is no, “One size fits all” in the Indian approach to either education or health care. The Indian system of education was centred on the Guru Kula, a mentor centric process similar to that seen in higher education with possibilities of one-to-one interaction on a regular basis. This was based on the principle of stimulating a yearning for the higher concepts of being, while learning the norms of natural living. The students developed themselves physically, emotionally, mentally and spiritually during this period of intense study at the feet of the Master. The emphasis was on the development of a Purna Purusha, a complete human being through all round development of physical, mental, emotional and spiritual qualities. Indian scriptures give us a deep understanding of the process of learning through Shravana (attentive listening), Manana (introspectional analysis) and Nidhidhyaasana (embodiment of the wisdom) as also different levels of students such as Mridu (dull), Madhya (average), Adimatra (excellent) and Adimatratma (supreme) Samvegins. Once the type of student and their nature is understood the teacher must judiciously apply the methods of teaching to maximize the inherent potential. The biggest challenge facing teachers today is how to deal with their students as they have been robbed of most of their authority. The traditional Indian approach to dealing with students is four-fold: Sama (treating as an equal), Dana (giving of gifts), Bheda (separation) and Danda (punitive correction). Of course this requires great Viveka (discernment) and Karuna (empathy) on the part of the teacher as also safety precautions as how many teachers today have these necessary qualities of wisdom and empathy?

## **CONCEPT OF THE YOGA INTELLIGENCE – MEANINGFUL HUMAN RESOURCE MANAGEMENT**

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In this paper we analyze specificities of the concept of yoga intelligence as the ability to manage potentials in general, ability to realize, understand and manage the deepest meanings and goals, ability to recognize all life circumstances as an opportunity for transformation and development, bearing on mind the unpredictability of the life circumstance. Yoga practice relies the seeker on the depth of lived experience, with the aim to achieve unity – the state of Samadhi. Spatial and temporal universality of yoga enables its presence in all dimensions of life, in the past and present. In this paper we show the metrical characteristics of the Yoga Intelligence Instrument, its specific features and requirements put upon it by the scientific community.

**Key words:** concept of the yoga intelligence, yoga intelligence, yoga, intelligence.

**APPLICATION OF YOGIC KNOWLEDGE  
TO MODERN EDUCATION**

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Modern education is largely the product of Western Industrial priorities of the last 200 years, and founded upon a shallow and largely outdated psychological understanding of the human mind and the development of the personality. India's ancient Yogic knowledge has plumbed the depths of human consciousness and developed and refined a sophisticated and detailed map of human consciousness and the various means of developing his highest potential. This knowledge is urgently needed today and its application can recast modern education to prepare the future humanity. In this lecture we explore some of these yogic principles and their application to education and learning within classrooms and in broader life.

## YOGA AND EDUCATION ACCORDING TO ANCIENT INDIAN WISDOM

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In Ishavasya Upanishad which is the earliest of the Upanishads, the sage gives us two different forms of knowledge, one he calls as Avidya and the other is given as Vidya. He gives this in three slokas. Many people translate the Avidya in first sloka as ignorance and some others translated it as the ritual portion of this culture, when you take it as ignorance it does not agree with the following slokas where in it is said that Avidya is necessary for mankind as much as Vidya which created confusion. But on the other hand when you take Avidya as rituals then it becomes irrelevant to present day life where numbers of rituals are already given up by our people. There are societies which are not connected with this culture and since rituals form part of this culture only this concept of Avidya is not applicable to them. That conclusion can only misguide us! In the Upanishad the sage appears to indicate that Vidya is also important and Avidya is also important. This statement shows that with the help of Avidya we can improve our performance in this world and with the help of Vidya we can make the spiritual journey, both were there in ancient Indian wisdom as part of our life. It is necessary in the first place to translate and interpret the ideas of Vidya and Avidya in the language which is applicable for today's life and in a global sense. Then we can see the importance how both become necessary. If we take only one of them namely Vidya or Avidya alone, that society will not work for global health and harmony. In this paper effort is made to interpret these terms Vidya and Avidya in the terminology which can be related to our present day understanding and that will indicate the missing part of education today, because of which we see in general education is growing but educated people are becoming rarer. If we understand yoga in its right sense then it can cater to the missing part of Vidya and if we can incorporate in the education system then we can achieve the global health, peace and harmony.

**HOLISTIC HEALTH – PROBLEMS:  
REMEDIES BY MANASHAKTI RESEARCH CENTER (MRC)**

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**Problem:** In spite of advances in technology, increase in the standard of living and overall spread of the formal education, holistic health is on sharp decline.

**Background:** At MRC, we believe that the basic cause behind this overall decline in holistic health lies in the way the human mind thinks and operates. MRC is devoted towards studying the human mind in its various aspects, with the goal of addressing the above problem and its root causes.

**Methods:** MRC aims at scientifically relate the concepts of Happiness. Emotions, Thoughts, Motive, Character, Mind and study of Human Behavior to the rules of Nature. We believe this helps in identifying the root causes of the problem of Holistic Health. Given this analysis, MRC proposes remedies that are tailor made to the requirements of diverse age groups, and backed by the concepts of science and spirituality. MRC offers appropriate remedies for nurturing the new generation and counseling adults.

**Results:** MRC's efforts in its programs have generated significant participation, and received extensive encouragement from the public at large, various thinkers, Government authorities and other institutes.

**Conclusion:** The first steps for the establishment of the Holistic Health have been firmly taken. The service aspect of MRC's mission is yielding good results. We believe MRC's mission is consistent with the overall mission of peace for humanity.

**Key words:** holistic health, peace of mind, emotional health, social health, meditation, the link between mind-soul-matter.

## INTEGRATING TRADITIONAL GURUKULA EDUCATION WITH CONTEMPORARY EDUCATION

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Gurukula education is that education which can be compared with an ever flowing stream and evergreen banyan tree with multi-branches with uncountable flowers and fruits. It must be ancient at root level and modern in its approach and applicability. It must be a torch-bearer for guiding the modern trends which is like a flood polluting and brushing aside everything surfaced to it. Learning activity in Gurukulams must be spiritually rooted, socially productive, service-oriented and integrated basically. Learning activity must be jointly organized by teachers (Poorvaroopas) and taught (Uttararoopas) aiming at आचारण and प्रचारण practice, preaching and propagating. There are three stages in Gurukulam education like *Adhisheela*, *Adhichitta* and *Adhiprajna*. The first stage gives more importance to character-building-aspect at tender age. Mother plays important role in this stage of education. Every growing child must undergo this stage of education in its home-school where mother only can nurture children's mind and impart training for use of sensory and working organs by projecting herself as a role model. These types of families are called **GrihaGurukulas**. These types of centers are miserably missing from the so-called modern society. This is called *Sheelayoga* with which the real sprouting for a bright future is rightly taken care of. Nowadays the educational psychologists are emphasizing this aspect of life. This education will be followed by चतितयोग which helps for emotional intelligence by providing normal training at the level of human brain. Normally human brain contains analytical, synthetical and calculative basic capacities. For the activation of these inherent powers students must stay at Gurukulam atmosphere away from their house. Gurukulam must provide eco-friendly housing by facilitating community living with many students coming from different cultural backgrounds. Sharing and caring must be the main characteristics of **Gurukulavasa**, which is highly recommended by Swami Vivekananda along with Shraddha and Brahmacharya. In the third stage अधिप्रज्ञा training will be more work-oriented and research centered for self reliance. In this stage graduation, post-graduation and research works are the main activities of Gurukulam. We earnestly have been trying for in four Gurukulas in Karnataka including Yoga and spirituality division in S-VYASA in this chartered path for more than two decades.

## TOWARDS HOLISTIC EDUCATION

**Subhash Sharma**

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Need for Holistic Education is being recognized the world over. Education paradigm of Banasthali University is an interesting case study of Holistic Education. This paradigm is centered around the idea of Panachmukhi Siksha i.e. Fivefold development of students in terms of Physical, Practical, Intellectual, Aesthetic and Moral aspects of holistic development. Curriculum design ensures that in addition to technical knowledge of the field, students inculcate aesthetic and moral values with a view to emerge as 'Holistic Professionals'.

In my writings I have extended the Panchmukhi model in terms of a formula of Holistic Education. This formula is as follows:

$$\text{Holistic Education} = \text{CH}^3$$

In this formula, C stands for Consciousness, H for Head, H for Heart and H for Hands. Modern education is largely cantered around Head perspective. It not only ignores Consciousness but also ignores Heart and Hands perspectives of learning. As a result education system is producing 'robots' for the society leading to many problems in the society. Holistic education aims to correct this deficiency of the education system in order to develop a balance between rational-analytic and intuitive-creative faculties of the students.

In the field of Management, this idea is being tested at WISDOM (Women's Institute for Studies in Development Oriented Management), Banasthali University, Banasthali. Its curriculum is centered around Wisdom equation presented below:

$$W = R + I$$

$$(\text{Wisdom} = \text{Reason} + \text{Intuition})$$

It is suggested that both CH<sup>3</sup> formula and Wisdom equation can provide us a conceptual foundation for implementing the idea of Holistic Education in schools, colleges and Universities. These ideas also point towards an integration of Yoga philosophy with Education.

## YOGA AND EDUCATION

**Alexander R Medin**

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This talk will focus on the importance of a strong practical experience of yoga in order to give it the justice. Yoga has a tremendous power to improve our education system by cultivating a stronger presence of mind and building a steady center from within. Yoga is also the education of our mind and senses into a new perspective on life and how we can minimize suffering.

The practical side of yoga is how we gain an integrated experience of the inmost essence within us. How we can become clearer within our operative mind-system and find an illuminating support rather than chasing ideals, getting caught up in anxiety, reactional patterns, projections or veiled beliefs.

After fifteen years of teaching yoga I was starting to become confident with standardized patterns that I thought was working well in my teaching. Then I was asked to teach the prisoners at the highest security prison in Norway. Suddenly I realized I failed miserably, because my standard approach in trying to educate people about yoga was not working. The prisoners were honest and open; it was a straightforward 'no-bullshit' approach. Luckily they were patient with me and as I gradually found my center and was able to teach them from a deeper integrated core, we began to share the experience of yoga. The results were remarkable and in this talk I would like to share some of these experiences and focus on what it means to embody yoga and improve the practical experience of it in our daily lives.





**ABSTRACTS**  
**ORAL PRIZE**  
**PAPER PRESENTATION**



## EFFECTIVENESS OF THE PRACTICE OF YOGA THERAPY IN ANXIETY DISORDERS IN FEMALES - A RANDOMIZED CONTROLLED TRIAL

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**Back ground:** Anxiety disorders are the most common of all mental health problems and often are chronic requiring ongoing medical or psychosocial and alternative therapies. There has been a paucity of research on the role of yoga on anxiety disorders.

**Methods:** In the present paper the objectives are, decrease in anxiety symptoms, improvement in quality of life of female anxiety patients. Fifty four female patients diagnosed as suffering from Anxiety disorders according to ICD-10 aged between 20 to 50 years, were recruited and assessed on anxiety severity scale and those who were of mild-moderate categories were considered. Those suffering from medical and other psychiatric disorders were excluded. Patients were randomly assigned according to Block Randomization method to one of the three groups – Medication alone; Medication with Yoga; and Yoga alone. Anxiety scales and physiological parameters were measured at base-line. A package of yoga practices designed to suit patients suffering from anxiety disorders was given and was reassessed at 2 weeks, 6 weeks and at 3 months.

**Results:** Results showed significant improvements in Hamilton Anxiety Scale scores (0.000); Anxiety Status Inventory scores (0.001), Satisfaction with Life Scale (0.001), Systolic Blood Pressure (0.001), Pulse rate (0.000) in Medication with Yoga group while comparing with Medicine alone and Yoga alone groups. Also significant drop in mean Diastolic Blood Pressure, Respiratory Rate, Body Mass Index.

**Conclusions:** Thus the initial indications are of potentially beneficial effects of medication with yoga interventions on anxiety disorders in anxiety symptoms, quality-of-life and physiological measures in females compared to other two groups.

**Key words:** Anxiety symptoms, Yoga intervention, Quality of life, Blood pressure,

## **EFFECT OF AN INTEGRATED APPROACH OF YOGA THERAPY ON QUALITY OF LIFE IN OSTEOARTHRITIS OF THE KNEE JOINT: A RANDOMIZED CONTROL STUDY**

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**Aim:** This study was designed to evaluate the efficacy of addition of integrated yoga therapy to therapeutic exercises in osteoarthritis (OA) of knee joints.

**Materials and Methods:** This was a prospective randomized active control trial. A total of 250 participants with OA of knee joints between 35 and 80 years (yoga,  $59.56 \pm 9.54$  and control,  $59.42 \pm 10.66$ ) from the outpatient department of Dr John's Orthopedic Center, Bengaluru, were randomly assigned to receive yoga or physiotherapy exercises after transcutaneous electrical stimulation and ultrasound treatment of the affected knee joints. Both groups practiced supervised intervention (40 min per day) for 2 weeks (6 days per week) with follow up for 3 months. The module of integrated yoga consisted of *shithili karana vyayama* (loosening and strengthening), *asanas*, relaxation techniques, *pranayama*, meditation and didactic lectures on *yama*, *niyama*, *jnana yoga*, *bhakti yoga*, and *karma yoga* for a healthy lifestyle change. The control group also had supervised physiotherapy exercises. A total of 118 (yoga) and 117 (control) were available for final analysis.

**Results:** Significant differences were observed within ( $P < 0.001$ , Wilcoxon's) and between groups ( $P < 0.001$ , Mann-Whitney *U*-test) on all domains of the Short Form-36 ( $P < 0.004$ ), with better results in the yoga group than in the control group, both at 15th day and 90th day.

**Conclusion:** An integrated approach of yoga therapy is better than therapeutic exercises as an adjunct to transcutaneous electrical stimulation and ultrasound treatment in improving knee disability and quality of life in patients with OA knees.

**Key words:** Knee disability; osteoarthritis; SF-36; yoga.

## SUN SALUTATION – A BIOMECHANICAL PERSPECTIVE

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**Background:** The Surya namaskar or sun salutation, as it is referred to, is one of the oldest traditionally honored yogic practice. It consists of a sequence of postures done with synchronized breathing. The practice of few cycles of Sun Salutation is known to help in maintaining good health and vigor. This sequence consists of 10 postures set in a dynamic form, performed in a single, conscious and graceful flow. In this regard, it is important to address the concepts of grace and consistency.

**Method:** An Inertial Measurement Unit (IMU) is mounted at the centre of gravity of the subject performing sun salutation. The data is logged on to a computer and later analyzed using various techniques like Fast Fourier Transform, Wavelet Transform and Hilbert-Huang Transform.

**Results:** Ten healthy subjects performed 12 cycles each of sun salutation. The concepts of grace and consistency, which are essentially qualitative in nature, are quantified using mathematical tools.

**Conclusions:** The analysis show that the forces and moments experienced by the principal joints of the human body during sun salutation are in safe limits. The *grace* and *consistency* while performing sun salutation can be quantified to evaluate the relative performance of the subjects.

**Keywords:** Sun salutation; biomechanics; signal processing

## **COMPLIMENTARY EFFECT OF YOGIC SOUND RESONANCE RELAXATION TECHNIQUE IN PATIENTS WITH COMMON NECK PAIN**

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**Background:** Studies have shown that conventional treatment methods with drugs physiotherapy and exercises for common neck pain (CNP) may be inadequate. Yoga techniques have been found to be effective complimentary therapies in chronic low back pain and also for stress reduction in other diseases.

**Objective:** The aim of the study was to examine the complimentary role of a yogic relaxation called mind sound resonance technique (MSRT) in non-surgical management of CNP.

**Materials and Methods:** In this randomized controlled study, 60 patients with CNP were assigned to two groups (yoga,  $n=30$ ) and (control,  $n=30$ ). The yoga group received yogic MSRT for 20 minutes in supine position after the conventional physiotherapy program for 30 minutes using pre-recorded audio CD and the control group had non-guided supine rest for 20 minutes (after physiotherapy), for 10 days. MSRT provides deep relaxation for both mind and body by introspective experience of the sound resonance in the whole body while repeating the syllables A, U, M and Om and a long chant (*Mahamrityunjaya mantra*) several times in a meaningful sequence. Both the groups had pre and post assessments using visual pain analog scale, tenderness scoring key, neck disability score (NDS) questionnaire, goniometric measurement of cervical spinal flexibility, and state and trait anxiety inventory-Y1 (STAI-Y1).

**Results:** Mann-Whitney U test showed significant difference between groups in pain ( $P<0.01$ ), tenderness ( $P<0.01$ ), neck movements ( $P<0.01$ ). NDS ( $P<0.01$ ) and state anxiety (STAI-Y1) showed higher reduction in yoga ( $P<0.01$ ) than that in the control group. Wilcoxon's test showed a significant improvement in both groups on all variables ( $P<0.01$ ).

**Conclusions:** Yoga relaxation through MSRT adds significant complimentary benefits to conventional physiotherapy for CNP by reducing pain, tenderness, disability and state anxiety and providing improved flexibility.

**Key words:** Neck pain; mind sound resonance technique; physiotherapy; stress; yoga

## **EFFECT OF DYNAMIC SURYANAMASKAR ON PHYSICAL FITNESS OF SECONDARY SCHOOL STUDENTS**

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**Background:** Suryanamaskar practice has previously been shown to improve cardiovascular performance and forward flexibility; other components of basic physical fitness were not assessed. Moreover, the more strenuous and intense version called Dynamic Suryanamaskar (DSN) was not used.

**Methods:** Fifty male subjects from the junior and senior year of Vishwatmak Jangli Maharaj Ashram Gurukula were selected and randomly divided into practicing and control groups. The tests were for strength (Max Weight Bench Press, Max Weight Legs Press), strength endurance (Push-Up Test, 60 sec Sit-up Test, 60 sec Trunk Lift-up Test), cardiovascular endurance (Harvard Step Test), and flexibility (Sit-and-Reach Test, Bridge-Up Test (Bridge-Up Height, Distance Fingers-Heels) and BMI. The Classical Pretest-Posttest Design was used. Tests were administered before and after treatment, which lasted for three months. Subjects trained DSN six days per week for 35 minutes followed by 10 minutes of Shavasana.

**Results:** To determine the effect of DSN on Physical Fitness variables of selected secondary school students the analysis of co-variance was used at 0.05 level of significance. In relation to Physical Fitness, a significant ( $p < 0.05$ ) effect of DSN was found for all selected parameters.

In the case all flexibility and strength tests, a significant ( $p < 0.001$ ) effect of DSN was found.

**Conclusion:** Dynamic Suryanamaskar convincingly improved all Physical Fitness parameters.

**Keywords:** Suryanamaskar    Yoga-based relaxation    Health    Biological rhythm

## **YOGA FOR CONTROLLING C REACTIVE PROTEIN IN CORONARY ATHEROSCLEROSIS**

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**Background:** Atherosclerosis is an inflammatory and chronic disease of medium and big arteries that lead to myocardial infarction and other cardiovascular disease. Literature reveals that hsCRP (high sensitive C - reactive protein) other biomarkers have been found to predict future risk of cardiovascular problems. This study aims at the role of lifestyle modification through yoga for controlling hsCRP.

**Methods:** The controlled experiment was conducted on sixty male patients of coronary atherosclerosis (Exp=30 and Cont=30), aged 40 to 65 years. *Purposive sampling technique* was employed for sampling. The subjects were matched into two groups viz., *Medicine plus Yoga group* (Gr. I) and *Medicine group* (Gr. II). The experimental group received *Yoga training plus medicine*, whereas the control group was kept under *medicine only*. This was a residential experiment and therefore diet and daily life activities of the patients were kept under control. The experimental intervention for the experimental group was 1 hr. in the morning and 1 hr. in the evening everyday for a total period of 6 weeks with equally two next follow up periods of 6 weeks each. Thus, the total duration of the experiment was 18 weeks. The hsCRP level in blood was assessed by a BIO-RAD Elisa Reader and Washer with an accurate diagnostic kit (Calbiotech) nearest to 1-3 microgram/ml.

**Result:** The result of 2 x 4 Factorial ANOVA followed by Scheffe's post hoc test revealed that Yoga therapy for six weeks period could reduce plasma hsCRP, which is a vital biomarker to target coronary atherosclerosis ( $p < 0.01$ ).

**Conclusion:** Yoga seems to be appropriate non pharmacological intervention for controlling vital bio marker of coronary atherosclerosis.

**Key words:** Yoga    hsCRP    Coronary Atherosclerosis

## CONNECTION BETWEEN YOGA PRACTICE AND DEPRESSION

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In this article there was analyzed connection between depression and yoga techniques practicing. The initial hypothesis was that yoga practitioners are less subjected to depressive emotional states since their everyday practice cultivates their mental, emotional, physical and spiritual dimension. The emotional condition of participants was evaluated by the instrument Profile Index Emotion – PIE (Plutchik and Kellerman, 1974), Yugoslav revision and standardization (Kostić, 1997), which measures eight dimensions, and participants' scores were compared along these dimensions. Statistically significant differences were noted in three dimensions: depravity, aggressiveness and exploration. We concluded that practicing yoga techniques (asana, pranayama, meditation and relaxation) contributes to persons' feeling of optimism, direction to the meaningful present, inner feeling of fulfillment and perspective way of looking into the future, all being the indicators of absence (presence) of depression.

**Key words:** yoga, emotional states, health, depression, personality

## EFFECT OF PRANAYAMA AND MEDITATION IN REHABILITATION OF PATIENTS WITH GUILLAIN-BARRÉ SYNDROME (GBS)

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**Objective:** To study the add-on effects of pranayama and meditation in rehabilitation of patients with Guillain-Barré syndrome (GBS).

**Design:** Randomized control study.

**Setting:** Neurological rehabilitation unit of university hospital NIMHANS, Bengaluru, India.

**Subject:** Twenty two GBS patients, who consented for the study and satisfied selection criteria, were randomly assigned to yoga and control groups. Ten patients in each group completed the study.

**Method:** The yoga group received 15 sessions (one hour/day) that consisted of relaxation, Pranayama (breathing practices) and Guided meditation in addition to conventional rehabilitation therapeutics. All the patients were assessed using Pittsburg Sleep Quality Index, Numeric pain rating scale, Hospital anxiety and Depression scale, and Modified Barthel index. Mann-Whitney U test and Wilcoxon signed rank test were used for statistical analysis

**Results:** Quality of sleep improved significantly with reduction of PSQI score in yoga group ( $p=0.048$ ). There was reduction of pain scores, anxiety and depression in both the groups without statistical significance between groups (pain  $p=0.167$ , Anxiety  $p=0.133$  and Depression  $p=0.070$ ) Overall functional status improved in both groups without significant difference ( $p=0.402$ ).

**Conclusion:** This first randomized control yoga study has shown that the quality of sleep can improve significantly by incorporating yogic relaxation, pranayama, and meditation into the rehabilitation care in GBS patients.



**ABSTRACTS**  
**POSTERS**



## PYRAMID EFFECT ON GROWTH OF FENUGREEK

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**Background:** Pyramids structures mentioned in the ancient Vedic culture as part of *Vāstu* çāstra and used as the roof of sanctum sanctorum in Indian temples was previously shown its effect in the reduction of growth of microorganisms in the milk sample. In this study the effect of pyramid on the growth of fenugreek is assessed.

**Material and Methods:** With 240 seeds from pool of seeds used for pyramid and control the effect of. The effect of Wooden Square Pyramid (WSP) with a square of length 770 mm and height 590 mm on fenugreek was studied on emergence and radical length on day 2 and emergence and seedling vigor (length of seedling) on day 4. Six rolls of 40 seeds each were kept below the base of the pyramid and another six rolls were kept outside the pyramid in the same room as control sample. Three rolls with total of 120 seeds were used for day 2 test and similar and other three rolls were used for day 4 test for both pyramid and control.

**Results:** On day 2, WSP showed more percentage emergence, significant increase in radical length, more radical fresh and dry weight compared to control sample and more temperature at inside the pyramid. On the day 4, WSP showed more percentage emergence, significant seedling vigor (length of seedling), more seedling fresh and dry weight compared to control sample and more inside the pyramid temperature.

**Conclusion:** On day 2, wooden square pyramid (WSP) had positive influence on percent emergence, radical length, radical fresh and dry weight compared to control sample. Similarly on day 4, there was positive effect of WSP on percent emergence, seedling vigor (length of seedling), seedling fresh and dry weight compared to control sample.

**Key words:** *Vāstu* çāstra Pyramid Emergence Radical length Seedling vigor

## **A STUDY OF THE EFFECT OF SPECIFIC YOGA PRACTICES FOR IMPROVING THE PERFORMANCE OF TABLE TENNIS PLAYERS**

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**Background:** Table Tennis is an indoor sport which demands speed, reflexes, concentration and endurance. The practice of yoga has already been shown to be beneficial for the children for improving their skills. The present study was carried out to assess the improvement in the performance of Table Tennis players by yogic training.

**Material and Methods:** The research based camp was conducted in April/May 2011 for 4 weeks at two different clubs where they were undergoing coaching. 26 out of 48 players age 12 +\_4 years and participating in local to national tournaments were selected for study and were given selected yogic intervention. Considering the perceptual motor task requiring skill and attentiveness (Mirror Drawing Star Tracing Test), Strength of leg and back muscle required for foot work (Leg and Back Dynamometer), cognitive judgmental factor (Muller Lyr Test), rapid and repetitive movement of hand and strength of hand (Minnesota Manual Dexterity Test and Hand Grip Dynamometer Test) were assessed before and after the camp.

**Results:** Paired T test and Independent Sample T tests were used. There was a statistically significant improvement in Minnesota Manual Dexterity test, Mirror Drawing, Leg & Back dynamometer. The others like Muller Lyr test showed individual improvement, there was no statistically significant difference.

**Conclusion:** Perceptual skills and attentiveness were found to be improved.. All these show that the selected Yoga practices showed significant improvement in the skills necessary for the sport.

**Key Words:** Table tennis players, strength, stamina, concentration, endurance, Perceptual skill

## INTEGRATED APPROACH OF YOGA THERAPY AND AYURVEDA AS COMPLEMENTARY THERAPY FOR ORTHOSTATIC HYPOTENSION AND BENIGN PROSTATIC HYPERTROPHY IN TYPE 2 DIABETES MELLITUS: A CASE REPORT

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**Background:** Type 2 Diabetes Mellitus (T2DM) develops several complications among which the less known ones include greater severity of symptoms of benign prostatic hypertrophy (BPH) and cardiac autonomic neuropathy resulting in orthostatic hypotension which has been traced to Vitamin-B 12 deficiency caused by long term intake of Metformin. We present a case wherein these two problems changed dramatically within two weeks of residential treatment through Integrated yoga therapy and *Ayurveda*.

**Methods:** A 70 yr old male with chronic T2DM since 17yrs, diagnosed with BPH and orthostatic hypotension admitted with symptoms of increased frequency of micturition, generalized weakness, giddiness and imbalance during walking. In spite of 48 units of insulin per day along with the usual life style care, the HbA<sub>1c</sub> level was 11.2mgs% and FBG was 180 mg/dl. IAYT, which included specific *asanas*; relaxation techniques, *pranayama*, meditation, counselling, and yogic diet were administered as a lifestyle intervention. Add on *Ayurveda* treatment included *Abhyangam* and *Shaman chikitsa*. The intervention went on for 14 days with regular assessment of glycemic state.

**Results:** On discharge, he showed impressive improvement in glycemic control with reduced dose of insulin by 66%. The frequency of urination reduced from 18 times/day to 6 times/day. Subjective improvement is seen in perceived giddiness and balancing power. The difference between Supine and Standing B.P. reduced significantly.

**Conclusion:** Standard prescribed IAYT for T2DM with added *ayurveda* treatment helps in management of T2DM. Long term holistic treatment can further improve the health status with reduction of medication and complications.

## **CHANGES IN TRIDOSHA AND TRIGUNA IN TYPE 2 DIABETICS AFTER INTEGRATED APPROACH OF YOGA THERAPY - A PILOT STUDY**

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**Background:** Ayurveda and yoga offer several diagnostic tools to assess the imbalances at subtle levels which may help in early detection of diabetes.

**Methods:** This was a Pilot study to assess tridosha and triguna in type 2 diabetics (DM2). Eight (3 males & 5 females) patients with DM2 between 55 to 65 years (mean  $61.6 \pm 3.58$ ) attending a 6 weeks' residential integrated yoga life style program at a holistic health center in Bengaluru, India, who consented for the study were recruited. Intervention included satvic diet, loosening practices, asanas, pranayama, meditations and counseling for stress management.

**Results:** There was reduction of 20.1% in FBS ( $131.13 \pm 45.75$  to  $104.75 \pm 16.17$ ), 23.7% in PPBS ( $202.25 \pm 75.78$  to  $154.38 \pm 40.72$ ), 2.9% in HbA1c ( $7.63 \pm 1.37$  to  $7.41 \pm 0.85$ ), 87 % in symptom score ( $4.0 \pm 1.31$  to  $0.50 \pm 1.07$ ) 72.32% in oral hypoglycemic medication ( $5.65 \pm 2.32$  to  $0.5 \pm 0.53$ ) and 22.27% in perceived stress ( $16.25 \pm 2.55$  to  $12.63 \pm 6.05$ ). In G inventory, there was a shift to rajas guna in 7/8 subjects; 6/8 persons shifted to pitta dominance. There was reduction in kapha (14.35 %) and vata (21.32 %) with increase in pitta (19.77 %).

**Conclusion:** The Improvement after Integrated approach of yoga therapy in diabetics is seen as increase in pitta dosha and rajas guna along with reduction of FBS, PPBS, HbA1c, stress levels, symptoms scores and medication requirement.

**Key words:** triguna, tridosha, diabetes, yoga, glycaemic control

## ADD ON EFFECT OF NADISHUDDHI PRANAYAMA ON HYPOTHYROIDISM A COMPARATIVE CLINICAL TRIAL

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**Background:** Hypothyroidism is a condition due to deficient thyroid secretion associated with hypo functional abnormalities in the PNS in association with reduction in the levels of serum T4 and T3. Also it is found that stress predisposes the risk of autoimmune diseases like hypothyroidism.

The link between the autonomic nervous system and pranayama , has been worked out. Following *Nadisuddhi pranayama*, both components of ANS are activated. So in addition to the well-established neuro-endocrine HPT axis, neural control of the thyroid gland may prove to be an important modulator of thyroid function.

**Methods:** Comparative clinical trial in 30 participants under conventional treatment, with *Nadisuddhi pranayama* as intervention in study group, for three months, two sittings per day (27 cycles/sitting) was done. Assessment was done before intervention, 45<sup>th</sup> day and 90<sup>th</sup> day. Assessment done for TFT, Symptoms, BMI and Spirometry.

**Results:** Results obtained were found to be statistically significant.

**Conclusion:** *Nadisuddhi pranayama* is found to be effective in reducing the TSH and improving T<sub>3</sub>, T<sub>4</sub> and lung functions in *hypothyroidism*.

**Key words:** *Nadisuddhi pranayama*, hypothyroidism, autonomic nervous system

## **P300 RESPONSES IN DIABETICS PRACTICING YOGA OR PHYSICAL EXERCISE: A CROSS SECTIONAL STUDY**

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**Background:** Diabetics are known to have delayed cognition as a consequence of its affection to central nervous system. This is evident through delayed P300 responses. *Yoga* is a known therapeutic strategy in the management of diabetes mellitus. Previous study as shown *yoga* improving P300 responses in diabetics, this study aims to measure the effect of practice of *yoga* and exercise on P300, Mini-Mental Status Examination (MMSE) and Body mass Index (BMI) in diabetics.

**Methods:** 55 diabetic subjects, 33 practiced *yoga* and 22 practiced physical exercise. Both groups were on conventional medication along with respective practice. All 55 were administered MMSE and BMI was measured. P300 responses were measured in 37 of them using auditory “odd-ball paradigm”.

**Results:** Latencies of P300 in *yoga* and control groups were within normal range and shorter compared to baseline recordings of an earlier study in diabetics. A non-significant increase in P300 amplitude was seen in the *yoga* group compared to control group. MMSE scores for both the groups were within the normal range, however *yoga* group performed significantly better than exercise group ( $p < 0.001$ ). BMI was normal in both the groups.

**Conclusions:** Amplitude of P300 was non-significantly higher in *yoga* group compared to control group, indicating facilitated information processing. Regular physical activity maintains normo-glycaemia and normal cerebro-vascular perfusion leading to no delayed cognition shown by shorter latencies of P300 in both groups. MMSE scores indicate both the groups were normal in cognitive function. BMI measurements in both groups are normal indicating regular physical activity leads to decrease in body fat and increase in the lean body mass.

**Key words:** ERP – P300 – *yoga* – diabetes – cognition

## **INTEGRATED APPROACH OF YOGA THERAPY CLINICS IN AMERICA BY YOGA BHARATI - AN EXPERIENCE ON OVER 300 PARTICIPANTS**

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**Background:** In the last three years, Yoga Bharati, SFO Bay Area chapter has provided yoga therapy for over 300 participants of ages ranging from 6yrs to 75yrs. We covered many ailments including back pain, asthma, anxiety, stress management, obesity and cancer. We conducted yoga for groups such as pregnant women, kids and seniors. In this paper, we will present the statistics of yoga participants and the effect of yoga on their health conditions.

**Methods:** We gave yoga-asanas, pranayama, DRT (Deep Relaxation), CM (Cyclic Meditation), MSRT (Mind Sound Resonance Technique), and other practices along with yogic counseling. Our primary yoga practice session was 75 mins long and one-on-one follow-up after the class. Participants came to yoga classes once or twice a week for duration of 3 months.

**Results:** There was a significant impact made on many of the therapy participants in terms of their overall well-being. Yoga helped immensely in pain management. We saw improvement in participants with Allergy/Asthma and anxiety issues. Many prenatal participants were able to deliver smoothly without the use of epidural or other complications.

**Conclusion:** Yoga therapy was very well received and people enjoyed the classes, felt better and continued to come to our classes for multiple workshops. Some of the challenges we face include the cost of running the classes in America, and privacy issues. People in America also tend to lead a fast paced lifestyle that does not give them time for a sustained yoga practice.

**Key words:** Yoga Therapy    Yoga Therapy in America

**CLINICAL EVALUATION OF VYOSHADI GUGGULU AND  
HAREETAKI CHURNA IN THE MANAGEMENT OF OBESITY  
(STHAULYA)**

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**Background:** Obesity is one among the leading but preventable cause of death worldwide. On average, obesity reduces life expectancy by six to seven years. Obesity is also a risk factor for serious health problems like cardiovascular diseases, type 2 diabetes mellitus, obstructed sleep apnea, osteoarthritis, etc. Realizing the social alarm raised by the growing prevalence of obesity, the present study has been designed as a primary level preventive intervention to assess the efficacy of classically indicated formulations, Vyoshadi Guggulu and Hareetaki Churna, in the management of obesity, thereby attempting to prevent the obesity related health hazards.

**Methods:** An open clinical trial was conducted in 60 patients for a period of 12 weeks. Intervention given was: 1) Vyoshadi Guggulu - 3 tablets (500 mg each) twice daily, 2) Hareetaki Churna- 3 gm twice daily, with Lukewarm water before food. Assessment was done on parameters like BMI, waist circumference, waist-hip ratio, Lipid profile and Quality of life – SF 36 scale

**Results:** The change in the above mentioned parameters were statistically significant

**Conclusions:** Vyoshadi guggulu and hareetaki churna are found to be effective in the management of obesity (sthaulya).

**Key words** - Obesity, Sthaulya, Vyoshadi guggulu ,Hareetaki churna

## **YOGA DANCE THERAPY: INTEGRATING ART, SCIENCE AND PHILOSOPHY. APPLICATION OF YOGA IN THE ART OF DANCE**

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**Objectives:** This research focuses on the efforts to find an alternative therapeutic art form from some of the oldest postural patterns and movements of the world culture heritage, creating a new philosophy of performance allowing the transformation and transmission of energy through kinesthetic expressions of wellness and spiritual comprehensive awareness. Yoga dance Therapy (YDT) is a method based on the application of yoga principles in the art of dance; combining a movement oriented sequence of Asanas (postural patterns) and purification techniques inspired in three world dance traditions: Indian classical dance, Ballet and contemporary dance.

**Methods:** 10 years of practice and research collecting evidence in the ancient scriptures about the historical links between yoga and dance in India.

**Teaching practice:** Two groups of 15 practitioners ages 18 to 40, group I was composed of yoga teachers with no dance experience and group II was composed of advanced dancers with no yoga experience, recruited for an intensive 12 weeks workshop on YDT training and applications. The results were satisfactory from both groups, the dancers increased their quality of movement and spatial awareness, finding optimal balance and concentrating at ease. The yogi's bodies opened to perform any kind of dance movement, improving their flexibility and endurance with the dance training. The teaching practice with both groups allowed designing a training method balancing Yoga, a discipline that directs itself inwards, and dance an art that directs itself outwards.

**Conclusions:** This data demonstrates that Yoga can be of an immense benefit to optimize performance and artistic qualities and prevent injuries in dance or sports, therefore exploring the interaction of these two parallel body-mind disciplines that enrich and enhance each other, opening a wider perception and holistic learning experience and insight to find the healing properties of a spiritual art form.

**Key words:** Art therapy method, Yoga science

## **PREVENTION OF SUICIDAL IDEATION THROUGH YOGA AMONG ADOLESCENT STUDENTS**

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**Background:** The present scenario of growing suicidal tendency in India is more among higher secondary and intermediate college students. The demographic data of suicides committed among Indian students amply reflects the lack of self control and emotional stability in overt situations.

**Objectives:** To assess the effect of residential yoga training on Psycho-Physiological and Biochemical changes among the adolescent students having suicidal tendency with mental-ill-health.

**Method:** Survey was done on 2000 students to assess suicidal tendency by using the Suicidal Tendency Questionnaire (STQ). On the basis survey, 90 students (39 boys and 51 girls) having suicidal tendency were selected for one month residential experiment study with one month follow-up. Subjects were divided into two groups (Experiment & Control). Each group consists of 45 students with the age range of 17 to 23 years (Mean  $\pm$ SD; 19.24  $\pm$ 1.36). Pre-Post-follow-up data were collected on STQ, 16PF, BP and Serum Cortisol.

**Result:** RMANOVA test showed significant descending profile in suicidal tendency among experimental group as compared to control. As per observation, deterioration in frustration ( $p < 0.05$ ) and improving the mental health ( $p < 0.05$ ) may be the cause for suicidal tendency decline after the one month of yoga training. Moreover, significant improvement also seen in *emotional maturity, dominance, ego strength, boldness, trust, shrewdness, confidence, and tension* at 0.05 levels. Further improvement were seen in blood pressure ( $p < 0.05$ ) and serum cortisol levels ( $p < 0.05$ ).

**Conclusion:** The study summarizes that yoga practice leads to reversal and prevention of suicidal tendency as inferred from psycho-physiological and biochemical results.

**Key Words:** Suicidal Tendency, Adolescent, Yoga

## MEASURING THE EFFECT OF *KAPĀLABHĀTI KRIYĀ* ON BRAIN BLOOD FLOW BY fNIRS IN NORMAL HEALTHY VOLUNTEERS: A PILOT STUDY

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**Background:** *Kapālabhāti kriyā* is a fast yogic breathing exercise, a cleansing practice which is done before *prānāyāmās*. No study till date has seen the effect of *Kapālabhāti* on brain blood flow; also fNIRS (functional near-infrared spectroscopy) has not been used for yoga research before. We saw the effect of *kapālabhāti* breathing exercise (KB) on cerebral (pre-frontal cortex) blood flow in six healthy volunteers using fNIRS.

**Objectives:** The study was conducted to compare the brain blood flow by fNIRS in normal healthy volunteers recorded before, during and after the high-frequency yoga breathing (KB).

**Methods:** Six (6) participants, 4 males and 2 females (within an age range of 17-35 years) who had no experience of practicing yoga techniques before, were given training for 7-10 days to perform KB. KB was practiced by the participants at the frequency of approximately 2.0 Hz i.e. 120 strokes/ min for 1 min. The brain blood flow was recorded using fNIRS before (5 min), during (1 min) and after (5 min) KB and the bilateral pre-frontal blood volume were calculated.

**Results:** The blood volume increased significantly in the bilateral pre-frontal cortices during KB ( $p = 0.025$ ) as compared to the baseline (RMANOVA with Bonferroni's correction).

**Conclusions:** *Kapālabhāti kriyā* influences the blood flow in the pre-frontal cortex bilaterally as measured by fNIRS, suggesting that practice of KB may have a beneficial role in improving cerebral blood flow in healthy individuals.

**Key words:** Kapalabhati, fNIRS, Yoga breathing practices, pre-frontal cortex.

## **QUMULATIVE IMPACT OF YOGA PRACTICE ON QUALITY OF LIFE**

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**Background:** The present study was conducted with two main objectives. First it aims to experiment whether the ancient system of yoga can bring about change in the quality of life of its practitioners. The second objective was to study the cumulative impact of yoga practice on Quality of Life.

**Method:** Four independent groups of yoga practitioners that varied in their length of experience in yoga practice were tested on Quality of Life. The first group (novice) comprised of 76 subjects (49 male and 27 female) with a mean age of 39 years (SD± 9.8). The second group (three months experience in yoga) comprised of 23 subjects (14 male and 9 female) with a mean age of 34.2 years (SD± 11.07). The third group (six months experience in yoga) comprised of 18 subjects (11 male and 7 female) with a mean age of 33.83 years (SD±9.33). The fourth group (twelve months experience in yoga) comprised of 17 subjects (11 male and 6 female) with a mean age of 32.8 years (SD±9.5). All the four independent groups were administered a questionnaire on Quality of Life (WHOQOL-BREF).

**Results:** Novice yoga practitioners and short-term yoga practitioners did not differ significantly on any of the quality of life scores. Novice yoga practitioners and twelve months experience group differed significantly on total quality of life score and also on all the four domains of quality of life. Three months experience group and twelve months experience group also differed significantly on their total quality of life scores and all the domains of quality of life.

**Conclusion:** Yoga practice has cumulative impact on Quality of Life. Long-term yoga practice improves quality of life in its practitioners more than novice practitioners and short-term yoga practitioners as measured by WHO Quality of Life – BREF Questionnaire.

**Key words:** Quality of Life      Cumulative impact      WHO Quality of Life – BREF Questionnaire

## IMPLICIT COGNITION AND YOGA RESEARCH

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Psychologists' attention has been significantly drawn towards Implicit Cognition in last ten years. The quest is to use automated responses in measurement, since these are believed to reflect deep, subconscious processes more accurately. Behavioral tools have been therefore developed to measure implicit processes, which are powerful, more objective, and simple to administer. The majority of them are simple reaction time measures. Examples include the Implicit Association Test, Lexical Decision Task, Semantic Misattribution Procedure, Go-NoGo task.

Implicit measures are preferred for two reasons: 1) they avoid social desirability problems in explicit assessments, and 2) they are far more accurate when measuring constructs that are difficult to self-report via introspection. Correlating implicit and explicit measures of a construct can provide insights into otherwise inaccessible aspects of cognitive processes, emerging from deliberated and automated processing. Another area, where this quest has offered new direction for research, is the search for latent variables, which mediate implicit-explicit congruences. The field is thus endowed with innumerable possibilities for the investigation of previously unexplored areas of psychology.

In-depth research into Yoga requires an interdisciplinary approach. Interfacing research on implicit cognition with research on yoga brings a radical change in outlook on assessments in yoga research. Here some of the implicit tools are analyzed, along with their functioning and psychometrics. Guidelines are set out for their use in yoga research, helping enhance our understanding of mechanisms involved in various yogic techniques, currently beyond the scope of explicit measurement tools.

**Key words:** Implicit Cognition, Yoga, IAT, implicit measures

## **EVALUATION OF YOGA NIDRA IN PATIENTS OF MENSTRUAL DISORDER WITH PSYCHOLOGICAL PROBLEMS**

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**Background:** Yoga Nidra is a successful therapy for both recent and long standing psychological disturbances of all kinds especially depression and high anxiety level and neurotic patterns.

**Objective:** To assess the effect of Yoga Nidra in patients of menstrual disorders with psychological problems.

**Methods:** Patients were recruited from the Department of Obstetrics and Gynecology, C.S.M. Medical University (erstwhile KGMU) Uttar Pradesh Lucknow India. 150 female patients with menstrual disorders were randomly divided into two groups 1- Intervention group: 75 subjects (Yoga Nidra intervention and Medication) 2- control group: 75 subjects (without Yoga Nidra intervention only Medication). The outcome measures were 'psychological general well-being index (PGWBI), taken on the first and last after three months.

**Results:** The Mean age with S.D of the Intervention Group was  $28.53 \pm 7.07$  years, and for Control Group was  $27.62 \pm 7.78$  year. There was significant improvement in Psychological General Well-being Index. Anxiety decreased significantly ( $p < 0.01$ ) and Depression decreased significantly ( $p < 0.04$ ) in intervention group. Positive well being, General Health and Vitality improved significantly ( $p < 0.04$ ), ( $p < 0.05$ ), ( $p < 0.03$ ) respectively after three months of Yoga therapy (Yoga Nidra) in intervention group compared with control group.

**Conclusion:** The findings suggest that patients with menstrual irregularities having psychological problems improved significantly in the areas of their well-being, anxiety and depression by learning and applying a program based on Yoga Nidra.

**Key Words:** Yoga Nidra, Menstrual disorders, Psychological General Well-being

**AN INTERVENTIONAL TRIAL ON PROMOTION OF POSITIVE  
HEALTH THROUGH SEASONAL PURIFICATION  
w .s .r. TO SARAT RITU**

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**Background:** It is a fact that atmospheric changes occur with seasonal variations which affect individuals either beneficially or detrimentally. In order to prevent those bad effects, Ayurveda proposes specific seasonal purification which is very beneficial in the promotion of positive health as well as prevention of diseases. With reference to *pitta dosha*, *sarat* is considered as the appropriate time for seasonal purification (*sneha sweda yuktha virechana*).

**Methods:** Randomized controlled trial was conducted in 30 healthy volunteers. The intervention given in the study group was 1) *Rookshana* – 2 days *takrapaana* 2) *Snehapana* with *Tiktaka ghrita* 3) *Abhyanga* and *ushma sweda* for 3 days 4) *Virechana* with *Avipathy choorna* 5) *Peyadi krama*. Assessment was done before *rookshana* and after *peyadi krama* for QOL, Ayurvedic health status, *pitta* rating scale and objective parameters like blood routine examinations, FBS, Lipid profile and antioxidant enzyme assay.

**Results:** There was a significant change in all parameters.

**Conclusion:** Preventive *sneha sweda yuktha* procedure in *sarat ritu* brings about positive changes in the health parameters and there by resulting in health promotion and disease prevention.

**Key words:** seasonal purification, sarat ritu, antioxidants

## **YOGA, POTENTIAL TO ENHANCE GLOBAL PEACE**

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Global peace in macrocosm can be said to be the summation of peace of mind at individual level in microcosm. The very definition of Yoga given by the founder of Yoga Philosophy, Sage Patanjali over 4000 years ago, says Yoga is the destruction of all the mental modifications (योगः चित्तवृत्तनिरोधः), which are primarily the cause of all agitations at mental & intellectual level. Much earlier than Patanjali, Sage Vashishta taught Lord Rama in Yoga Vashishta, Yoga is the means to calm down the agitated mind (मनः प्रशमनोपायः योग इत्याभधीयते)

As human beings we all are striving towards happiness. The single most important factor for happiness is peace of mind as Lord Krishna teaches in Bhagvad Geeta, where is the happiness for the restless (अशान्तस्य कुतः सुखं ). Going back and analyzing the root cause of all problems in any individual's life such as fights, violence, clashes, breakdown of relationships, these could be invariably attributed to agitation of the mind in some form or other and could very well be avoided by very simple Yoga practices such as slow & deep breathing. Higher practices like Pranayama, Concentration & Meditation would do extraordinary wonders in calming down the mind and bringing peace & harmony.

Historically, all global turmoil including the world wars could be attributed to agitation of minds of some powerful individuals. As the agitation grows in an individual's mind, it starts affecting not only the persons around him or her but also the families, communities, societies and nations, depending on how influential the individual is. For example 2<sup>nd</sup> world war cooked up in the mind of Adolf Hitler. 9-11 disaster in U.S. brewed in the mind of Bin Laden. If these individuals had understood the basics of yoga, e.g. non violence & truthfulness which are only 2 out of 5 Yama's (regulations), the great disasters of that magnitude could be avoided. Imagine what a beautiful and harmonious place this world would be, if all of us understand all the 8 limbs of the Ashtanga Yoga i.e. Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana & Samadhi.

## **THE EFFECT OF ADD-ON OF PHYSIOTHERAPY, AND AYURVEDIC TREATMENT TO INTEGRATED APPROACH OF YOGA THERAPY, ON CHRONIC NON-SPECIFIC LOW BACK PAIN**

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**Background:** Chronic low back pain (CLBP) is well known as a chief reporting complaint in developed countries. Treatments usually focus only on pain relief leaving root causes untreated and patients facing long-term treatment. Certain systems of CAM including Yoga are often effective in resolving spinal problems and relieving back pain more permanently. Previous Yoga studies found residential lifestyle treatments to be effective in relieving CLBP.

**Objective:** Here, we report an RCT aimed to evaluate two alternative add-on therapies (physiotherapy or Ayurveda), to attempt to improve previously documented effects of integrated approach of yoga therapy (IAYT), for CLBP.

**Method:** 60 patients, randomized into two groups of 30, received treatments over one week periods. Pre-post design included measures of pain, lumbar spine range of motion, disability and depression.

**Results:** Significant between group differences were observed for spine extension ( $p=0.002$ ), sit and reach ( $p=0.001$ ) and left side rotation ( $p=0.012$ ), in all of which more improvement was observed in the physiotherapy and yoga group ( $p=0.009$ ). In the two groups X patients in the physiotherapy group and Y patients in the Ayurveda group experienced over 50% symptom relief.

**Conclusions:** For these patients, yoga and add-on physiotherapy was more effective in the management of non-specific, chronic low back pain. Yoga could with advantage be adopted among treatments offered world-wide for chronic low back pain.

## **INFLUENCE OF INTEGRATED APPROACH OF YOGA THERAPY ON NERVE CONDUCTION VELOCITY IN TYPE II DIABETES PATIENTS - A CROSS SECTIONAL STUDY**

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**Background:** Type 2 diabetes mellitus comprises an array of dysfunctions resulting from the combination of resistance to insulin action and inadequate insulin secretion. It is characterized by hyperglycemia and associated with micro-vascular (i.e., retinal, renal, possibly neuropathic), macro-vascular (i.e., coronary, peripheral vascular), and neuropathic (i.e., autonomic, peripheral) complications. Yoga has been shown to reduce the hyperglycemia and thereby improve nerve conduction velocity in Type 2 diabetes patients.

**Objectives:** To study Nerve Conduction Velocity (NCV) in Type 2 Diabetes patients and to compare NCV among the patients who were regular practitioners of Yoga versus those who were non-practitioners.

**Methodology:** Subjects: 60 type 2 Diabetes patients selected from two groups (one practitioner of Yoga and the other non-practitioners). They were belonging to both genders with ages ranging between 30 to 70 years. Subjects were recruited from Arogyadhama, the research based health home at Swami Vivekananda Yoga Anusandhana Samsthana, Jigani, subjects were recruited from the outpatient units of Arogyadhama located at Ekanath Bhavan Gavipuram Circle and Suhruda polyclinic Chamrajpet, Bangalore.

**Results:** Independent sample t-test showed significantly higher NCV in yoga group compared to the control group at wrist for both Right hand (P= 0.004) and Left hand (P=0.017). Mann-whitney-U-test showed significantly higher mean for F-Wave in yoga group compared to the control subjects in right hand (P=0.004).

**Conclusion:** People practicing yoga have been shown to have better nerve conduction velocity, hence suggesting role for yoga as an adjuvant in the management of type 2 diabetes induced nerve damage.

## STANDARDIZATION OF “*AMA*” QUESTIONNAIRE FOR USE IN CLINICAL STUDIES

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**Background:** *Āyurveda* considers *Āma* as the root cause for the manifestation of any disease. Hence assessment of *Āma* is of utmost importance in devising an appropriate treatment. Hitherto there are no objective tools to quantify *Āma* and the physician is trained to assess *Āma* clinically through several indicators mentioned in the texts. The current study aims at constructing a comprehensive questionnaire to assess symptoms of *Āma*.

**Methods:** Questionnaires were administered to 190 healthy volunteers (group average age  $\pm$  SD: 25.63 $\pm$ 6.92) sourced from different places on a convenient sampling basis who met the inclusion and exclusion criteria's listed in the study design and were assessed for their *Āma* status.

**Results:** Cronbach's coefficient alpha (0.839) showed consistency of results across items within the scale. A Split – half reliability test score (0.732) showed the stability of a measure. Intra – Class correlation coefficient (0.819) showed the consistency, or conformity, of measurements made by multiple respondents measuring the same quantity. Aiken index score (AI>0.70) for all the items showed Content validation. Construct validation by Item Total correlation method showed a P- value <0.001, approving an overall consistency with the averaged behavior of the other items in the scale.

**Conclusion:** The standardized Questionnaire showed *Āma* scores for healthy volunteers to be significantly low on the scale. This showed that the state of being disease free is indeed due to fewer or no symptoms of *Āma* further proving that the items are measuring the same construct measured by other items included.

**Key words:** *Āma*, Cronbach's coefficient alpha, Split – half reliability, Aiken index score,

Intra – Class correlation coefficient, Construct validation

## **YOGA THERAPY AND SERUM BRAIN-DERIVED NEUROTROPHIC FACTOR IN DRUG NAIVE/DRUG FREE PATIENTS WITH DEPRESSION: EFFECT OF REGULARITY**

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**Background and objectives:** Serum BDNF levels have been shown to be lower in patients with depression and increase with antidepressants. Yoga has been shown to have antidepressant effects. We examined the relationship between regular practice of yoga as therapy and antidepressant effect as well as rise in serum BDNF level.

**Methods:** Consenting, antidepressant-naïve/ drug-free outpatients (n=47, 19 females) meeting DSM –IV criteria for Major Depression volunteered for yoga therapy. They were aged between 18-55 years and had a score of 11 or more on HDRS. They received yoga therapy with (n=27) or without (n=20) concurrent antidepressants. Yoga was taught by a trained therapist for ten days and later twice weekly for two more weeks. All were advised to practice yoga at home on all the days in these three months. Depression ratings and serum BDNF levels were obtained before and three months after treatment. Serum BDNF was assayed by using sandwich ELISA method. Regularity of yoga therapy (number of days of practice in the 3-months period) was the independent variable that was correlated with change in depression scores and serum BDNF levels.

**Results:** There was a significant correlation between number of days of yoga practice and change in HDRS ( $r=0.52$ ;  $P<0.001$ ) and change in serum BDNF levels ( $r=0.47$ ;  $p=0.002$ ). In patients who received only yoga, this correlation was stronger with respect to drop in HDRS ( $r=0.69$ ;  $p=0.001$ ) and rise in serum BDNF ( $r=0.60$ ;  $p=0.007$ ) respectively.

**Conclusions:** Regular practice of yoga as therapy was associated with better antidepressant effect (lowering of depression scores) as well as better neuroplastic effect (rise in serum BDNF levels). This finding also strengthens the evidence for BDNF having a role in the pathophysiology of depression.

## A STUDY OF THE EFFICACY OF YOGIC PRACTICES FOR KNEE PAIN

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**Background:** Incidence of knee pain in persons of all ages is on the rise. Efforts were made to study if specific yogic practices carried out daily could bring about objective as well as subjective improvement in the knee pain.

**Material and Methods:** A Yoga camp was held for duration of 5 weeks, 75 minutes daily, for those suffering from knee pain. A total of 72 participants registered for the camp. Specific yogic practices designed included asanas, shuddhikriya, Breathing exercises, Pranayamas, Shavasana, Yoganidra, Dharana along with lectures conducted by qualified personnel along with counselling. Chairs were provided for those who had difficulty in sitting on the floor. Parameters were recorded before and after the camp.

**Parameters:** observed included\_ observation of effusion, gait, tenderness, range of motion, tightness and muscle strength, subjective questionnaire regarding difficulty in walking, climbing, standing, getting up and sleep disturbances and Visual pain analog scale

Paired t test along with Wilkoxson test of significance as per SS 9.2 was applied for data analysis

**Conclusion:** selective yogic practices performed daily bring about significant improvement of knee pain as proved by scientific parameters.

**Key Words:** Knee pain, Tailor made Yoga practices

## **EFFICACY OF YOGA IN SPARC INITIATED GREEN PRESCRIPTION PROGRAM**

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**Background:** Disease burden is on the rise across the globe, particularly in urban settings. Whilst there is a 'bottom up' approach of the general public seeking Yoga as therapy, New Zealand government has initiated Sports and Recreation New Zealand (SPARC) as a 'top down' approach to increase physical activity among people. Green Prescription (GRx), a doctor's recommendation for physical activity has gaining momentum. This presentation is on a potential research topic investigating the efficacy of currently running yoga program at GRx to improving disability-adjusted life year (DALY).

**Methods:** Attendees of GRx program between March and July 2012 will be invited to participate in 6 week long study. The consented participants (100) will be inducted and introduced to the yoga program. A mixed method approach will be adopted utilising non-experimental quantitative and qualitative methodology. The participants will have to complete Quality of Life questionnaire before and after the intervention. In addition to the Quality of life questionnaire the participants have to complete an open ended question on the effects of the program. The data will be analysed using Statistical Package for Social Sciences (SPSS) and the open ended question will thematically analysed.

**Results:** With reference to common non-communicable diseases there is a need for designing an effective health promotion that addresses mind-body connections. The link between these two factors and some plausible factors with its mechanisms will be examined.

**Conclusion:** This investigation may be beneficial in designing effective Yoga Therapy protocols in the management common non-communicable diseases in New Zealand population.

**Keywords:** Yoga, Yoga Therapy, Non-communicable diseases, Green Prescription, GRx

## **COMPLEMENTARY AND ALTERNATIVE MEDICINE IN TYPE 2 DIABETES**

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Type 2 Diabetes Mellitus (T2DM), the seventh leading cause of death, is a biggest challenge for mankind. Despite of fascinating advances in pharmaco-therapeutic agent offering various oral hypoglycemic agents and insulin formulation, the prevalence of T2DM is growing every year. Complementary and Alternative medicine (CAM) as classified by the National centre of Complementary and alternative medicine (NCCAM) have documented various positive results in the management of T2DM. Whole ancient medical systems like Ayurveda, Siddha, and TCM etc use natural herbs, which are either used as a single drug therapy or in the form of formulations by combining two or more herbs depending upon principles of respective medical system. Studies done on these herbs viz. Momordicacharantia, Trigonella foenumgraecum, Cinnamomumverum etc prove their immediate and long term effect on T2DM. Whereas mind body intervention like Yoga and Acupuncture were also found to be beneficial in decreasing the stress levels and side effects of T2DM. As a result of these positive results, several surveys say that a large number of physicians are either referring to or practicing some of the more prominent and well known forms of CAM as they believe that these therapies are useful and efficacious.

The concepts proposed and used in treating diabetes by these whole systems of medical practice (that are kept alive by CAM practitioners round the globe for thousands of years) appear very mysterious to the present day biomedical practitioners. These models of therapies seem to have evolved through several phases of internal research just like the present day drug trials that go through 4 phases of intensive statistical evaluation. It appears that today's scientists need to follow the footsteps of research used by the ancient seers of TCM, Ayurveda, Siddha, Yoga or Homeopathy to unravel these mysterious theories.

We, at S-VYASA University are involved in generating evidence not only for the efficacy of these holistic systems but also in carrying out systematic research by biomedical scientist who have the knowledge of both the western and eastern sciences.

## **CHANGES IN CEREBRAL BLOOD FLOW DURING A FRONTAL LOBE TASK IN TYPE 2 DIABETIC PATIENTS FOLLOWING AN INTEGRATED YOGA AND AYURVEDA PROTOCOL: A PILOT STUDY**

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**Background:** Type 2 diabetes (T2DM) develops various complications, where the less known ones include micro-angiopathy, neuronal loss, and cognitive impairment. Diabetics are at increased risk of cerebro-vascular disease because of having diminished cerebrovascular reserve which may cause difficulty to compensate with necessity of an increased cerebral blood flow. In this study we hypothesized that modern medication (MM) with add-on of *Yoga* and *Ayurveda* as Complementary and Alternative Medicine can improve the cerebral blood flow (CBF).

**Method:** A single group pre-post study was conducted to study the cerebral blood flow changes during a frontal lobe task (Tower of London) in T2DM patients using Functional Near Infra-Red Spectroscopy (fNIRS). 10 patients satisfying the American Diabetic Association criteria of T2DM were taken for six weeks residential intervention of *Yoga* and *Ayurveda*. The biochemical and neuro-physiological parameters were assessed in first week and after six weeks of intervention. Medications were tapered, depending upon clinical parameters.

**Results:** Diabetic patients presented significantly increase in oxygenated haemoglobin in voxel 9 (<0.05) whereas the decrease in oxygenated haemoglobin in voxel 8 and 10 (<0.05) has also been found. There was no change in deoxygenated haemoglobin and blood volume. The medication score also reduced significantly.

**Conclusion:** This study reveals that *Yoga* and *Ayurveda* as add on with MM can bring significant change in oxygen level of CBF in T2DM patients. As a pilot study with limited subjects, we can conclude that a bigger clinical trial can be planned which can bring much more clear picture about the effect of *Yoga* and *Ayurveda* on CBF in T2DM patients.

**Key words:** Yoga, Ayurveda, Cerebral blood flow, fNIRS, Tower of london

## FROM WHEELS TO HER OWN FEET – A CASE OF AMYOTROPHIC LATERAL SCLEROSIS (ALS) AFTER IAYT AND AYURVEDA THERAPY

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**Introduction:** Amyotrophic lateral sclerosis (ALS) is a devastating neurodegenerative disorder affecting 1 to 2.5 cases per 100,000 populations with no known cure available. The diagnosis of ALS requires presence of both upper and lower motor neuron findings and progressive motor dysfunction. *Yoga* with its holistic approach has been effective in neurology and in improving several chronic conditions like multiple sclerosis, neurogenic bladder dysfunction etc. Referring to these evidences this patient with ALS was admitted to *Arogyadhama* (ARD), SVYASA.

**Methods:** A 40 year old lady, diagnosed of Motor Neuron Disease (MND) with difficulty in buttoning and unbuttoning, difficulty in feeding, difficulty in combing with left hand, difficulty in standing from sitting position was admitted in ARD. Psychologically she felt very low as she had no hopes of recovery from this disabling disease. *Ayurvedic* treatment with the specific techniques of integrated approach of *yoga* (IAYT) therapy including *Laghu Shankhprakhshalan kriya, asanas, pranayamas* and meditation was given to her. Powerful resolves of Mind Sound Resonance Technique viz., imagining she walking normally, lifting paper bits by toes, frequent motivations to walk etc. were introduced.

**Results:** After her stay of 2 weeks, her muscle strength improved. Planter flexion and dorsi flexion of left ankle, extension of left knee and flexion of hip improved from grade II to III, III to IV and from III to IV respectively. Right side also had an improvement in extension and abduction of fingers and thumb with flexion in wrist joint showing improvement in grades from III to IV in all of them. The clinical parameter came to normal with reduced respiratory rate showing positive improvement.

**Conclusion:** IAYT and *Ayurveda* treatment can discover new horizons for the management of MND and other chronic disorders by improving quality of life and adding years into life. The further upcoming case studies can help us in getting directions to plan for a larger clinical trial in future and serving the humanity in holistic way.

## **SELF MANAGEMENT OF EXCESSIVE TENSION MODULE FOR MANAGERIAL EFFECTIVENESS**

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**Background:** Stress certainly seems to be an inescapable element of the modern life of a manager.

**Methods:** In seventy-two volunteers (63 males and 9 females) referred from Oil and Natural Gas Corporation (ONGC) Limited (group average age  $\pm$  S.D., 48.75 $\pm$ 3.86 years), the efficacy of Self Management of Excessive Tension (SMET) program was assessed for managerial effectiveness on Brain Wave Coherence (BWC) recordings, Emotional Quotient (EQ) scores, General Health Questionnaire (GHQ) scores, and Personality (Guna) Inventory (PI) scores. The data were taken on the first and sixth day of 5 days SMET program.

**Results:** The data analysis showed 19.31% increase ( $P<0.05$ ) in Delta, 5.04% increase ( $P=0.65$ ) in Theta, 15.4% increase ( $P=0.09$ ) in Alpha, 1.67% decrease ( $P=0.54$ ) in Beta and 18.68% increase ( $P=0.07$ ) in Gamma BWC. 72.02% increase ( $P<0.001$ ) was also observed in EQ. Furthermore, there was 68.25% decrease ( $P<0.001$ ) in Somatic Symptoms, 66.29% decrease ( $P<0.001$ ) in Anxiety and Insomnia, 65.00% decrease ( $P<0.001$ ) in Social Dysfunction, 87.08% decrease ( $P<0.001$ ) in Severe Depression and 71.47% decrease ( $P<0.001$ ) in all medical complaints. Similarly, there was 81.95% decrease ( $P<0.001$ ) in Tamas (dull), 80.92% decrease ( $P<0.001$ ) in Rajas (violent) and 139.71% increase ( $P<0.001$ ) in Sattva (balanced) personality trait scores.

**Conclusion:** The results suggest that SMET program could improve Delta BWC, emotional stability, general health and Sattva Guna in managers and may play a vital role in their managerial effectiveness.

**Key words:** Self Management of Excessive Tension (SMET) program, managerial effectiveness, health

## OCCUPATIONAL HEALTH STATUS OF AYURVEDA MASSEURS IN KERALA - A CROSS SECTIONAL STUDY

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**Background:** Occupational health is the ability of a worker to function at an optimum level of well-being at a worksite as reflected in terms of productivity, work attendance, disability compensation claims, and employment longevity. It is evident that massage and bodywork practitioners had to leave their profession because of injury or otherwise unable to continue their work meeting the physical demands of their work. Certainly, there is a tendency among healthcare providers to focus on the well-being of the client, sometimes to their own detriment. Other professions that involve direct care giving, such as nurses and physical therapists, have surveyed their members and found high rates of injury, mostly musculoskeletal in nature.

*Panchakarma* is very popular practice all over Kerala and *masseurs* play an important role in the treatment of patients. It is found that the masseurs have to work hard continuously. Here an attempt is made to know the health status of masseurs of Kerala.

**Methods:** A survey has been conducted in the population of Ayurveda masseurs those who are having more than 2 years of working experience in the age group 20 - 50 years. Total 200 Ayurveda masseurs were personally interviewed and data was collected with the help of questionnaire.

Data includes regarding their nature of work, personal health status, their educational status, economical and mental status.

**Results:** Results obtained were found to be statistically significant.

**Conclusion:** Occupational health problem is prevalent among Ayurveda masseurs in Kerala.

**Key words:** Occupational health, *Masseur*, *Panchakarma*

## YOGA FOR BRONCHITIS

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Bronchitis refers to inflammation of air passages resulting in excessive secretion of mucus and swelling of the lining. Chronic Bronchitis caused by smoking affects 5% of US population and leads to Chronic Obstructive pulmonary Disease (COPD) in the long run. Although it is known that smoking (COPD) and allergens (Asthma) are the main factors that induce chronic inflammation in major conditions, the role of psychosocial factors or a hypersensitive personality that lead to chronic smoking or asthmatic episodes are less recognized.

Several studies have shown the beneficial effects of mind body interventions (MBI) in chronic bronchitis. Long term follow up studies at our institute have shown that integrated approach of yoga therapy (IAYT) is beneficial for asthma in reducing their medication requirement and a simple chair breathing technique for 20 minutes can be of use during acute episodes of bronchospasm in allergic bronchitis/Asthma. There is now mounting scientific evidence that yoga reduces stress and maintains balance in ANS activity. A pilot study showed that yoga therapy decreases dyspnea intensity (DI) and dyspnea-related distress (DD) in older adults with COPD by managing dyspnea and increasing the ability to perform activities of daily living (ADL) with improved bronchial drainage.

Sage Patanjali talks about yoga as a process of gaining mastery over the mind. IAYT that has been found to be effective in bronchitis includes several practices. Among these, the cleansing techniques (kriyas) provide drainage of secretions and help in gaining mastery over hyper-reactive autonomic and immune responses. Different pranayamas like- *visama vritti pranayama* (timed breathing) and yogasanas help to correct the postural abnormalities, improve the respiratory stamina and promote drainage of secretions. Reduction in negative emotions through IAYT offers a better quality of life with increased pulmonary functions and improved immunity. Thus, with the scientific evidences available today, we suggest to the authorized bronchitis support agencies to include this module of 'IAYT for bronchitis' in their recommendations for standard medical management of bronchitis.

**Key words:** Dyspnea, COPD, Visama vritti pranayama, Bronchospasm.

## EFFECT OF DISEASE TRAJECTORIES ON COGNITIVE BEHAVIOR

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**Background:** Individuals' perceptions and beliefs generate and reflect streams of thoughts. These thought patterns may determine an individual's behaviour. Studies found a premorbid behaviour of being restraint associated with Parkinson's disease (PD). However the acquired illness trajectories changes individuals' behaviour. The findings on the positioning of yama (interpersonal aspects of life) and niyama (intrapersonal and personal aspects of life) among people diagnosed with Parkinson's disease.

**Methods:** The study involved a cross-sectional sample survey. Parkinson's New Zealand selected a random sample of 990 of its members. A self-completed questionnaire was sent to them. It asked questions about the frequency of their thinking, over the previous 4 weeks, about selected aspects of life. A completed questionnaire was returned by 319 (32%) people with PD.

**Results:** The analysis focused on describing the thought patterns of the people with PD. Respondents thought most about doing good deeds (81%), community (71%) relationships (87%) and health (94%). To help validate the classification of interpersonal, personal and intrapersonal thinking, a principal component analysis was conducted on the aspects of life. Preliminary data showed individuals with PD frequent thinking about interpersonal and personal aspects of life, suggesting a change from premorbid cognitive behaviour found by other studies.

**Conclusion:** Thinking patterns in people with PD indicate their closer association with yama and niyama. This investigation may lead to a formulation of hypothesis as a basis for future research and to designing effective Yoga Therapy incorporating the aspects of yama and niyama into the intervention protocols for preventing PD.

**Keywords:** Niyama, Parkinson's disease, Perception, Yama, Yoga Therapy

## **A STUDY OF THE EFFECT OF SPECIFIC YOGA PRACTICES FOR OCCUPATION RELATED BACK PROBLEMS OF PROFESSIONAL TABLA PLAYERS**

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**Background:** Tabla is a set of two percussion instruments used commonly to accompany the vocalist in classical Indian music. It involves learning for many years with daily practice of hours together. A performance usually goes on for many hours at a stretch. It is known that they get afflicted with a variety of occupation related problems, mainly related to the back.

**Material and Methods:** A pilot project was organized at Pune, Maharashtra for a group of 24 Tabla players for 4 weeks. Their subjective feedback was encouraging. So, a research oriented camp was arranged at Thane, Maharashtra for duration of 4 weeks. Specific yogic practices were designed including Shuddhikriya, Yogic Exercises, Asanas, Breathing Exercises, Prananyama, Yoganidra, etc.

16 subjects registered for the camp. The regular participants were around 7. Back related parameters were designed in consultation with Orthopedic Surgeon. They were recorded both before and after the camp for 7 participants. All were professional Tabla players practicing for more than 15 years.

**Inclusion:** Professional Tabla players, of all age groups.

**Parameters:** Neck Back Extention, Hip extention, Bilateral Single leg raising, Dorso lumbar fascia, Bridging, Curl ups, Forward bending in Paschimatanasana, Neck movements namely, flexion, extension, lateral flexion, rotation. Paired t test was applied for the analysis using SS 9.2 software.

**Conclusion:** Flexibility and endurance was found to be improved. Personal feed back questionnaire in both the camps (total 40 participants) revealed that the comfort level, concentration and level of performance during practice and actual performance had increased.

**Key Words:** Tabla players, occupational back problems

## EFFECT OF INTEGRAL YOGA ON PSYCHOLOGICAL AND HEALTH VARIABLES

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**Background:** Very few studies are done to find out the efficacy of integral yoga on psychological and health variables in a residential set up. This study evaluates the effects of integral yoga practices on these variables in a residential set up.

**Methods:** The study was a pre post intervention study. The variables were measured at the beginning and the end of a one-month yoga course. There was no control group. The study was carried out at Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA) University, in its rural campus south of Bangalore. 108 volunteer subjects of both sexes were selected from 198 Yoga instructor course students based on health criteria. Ages ranged from 17 to 63 years.

The intervention's various components included Yogasanas (postures), pranayama (breathing exercises), relaxation techniques, meditation, chanting & lectures. Variables measured were sustained attention, emotional intelligence – EQ, general health – GHQ, guna personality – sattva, rajas and tamas.

**Results:** Effect of integral yoga practices shows significant improvement in all the variables but not much in Sattva. Improvement in sustained attention, emotional intelligence, general health and rajas changes were at  $P < 0.001$  significant level while tamas at  $P < 0.01$  significant level and sattva at  $P < 0.447$  insignificant level after integral yoga practices.

**Conclusion:** The study shows that there were significant improvements in all variables except sattva where improvement is insignificant due to effect of integral yoga.

**Keywords:** Yoga emotional intelligence Gunas psychological

**A COMPARATIVE STUDY OF AUTONOMIC CHANGES  
DURING NADISHUDHHI PRANAYAMA PRACTICES  
WITH SPECIFIC REFERENCE TO  
DIAPHRAGMATIC BREATHING AND THORACIC BREATHING**

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**Background:** Ancient literature on *hathayoga* (esp. *Hathapradeepika*) describes the methodology of *nadishuddhi pranayama* with specific description of diaphragmatic breathing. It describes the *puraka* as '*purayet udaram vayuh.*'

**Methodology:** A single blind comparative study was carried out with 9 participants in each group practicing Nadishuddhi pranayama, one group practicing diaphragmatic breathing and the other group practicing thoracic breathing with breath awareness. The study was conducted for three weeks for one hr daily. The sequence of practice included starting prayers and *trataka* on *Om* *kara*, preparatory practices like deep breathing, sectional breathing, full yogic breathing followed by rounds of *nadishuddhi pranayama* as described by *Hathapradeepika*. People with known heart disease or hypertension on treatment or any other treatment which is likely to interfere with cardiac rhythm were excluded from the study. Readings of finger plathysmography, heart rate variability, EDA, respiration were taken on 4 channel polygraph machine (Biopac) at the beginning and at the end of three weeks of practices.

**Analysis and results:** Analysis of the data applying paired t test (SS 9.2) showed significant decrease in HR and RMSSD in time domain analysis in diaphragmatic breathing group along with decreased LF and increase in HF waves on frequency domain analysis, suggesting parasympathetic dominance. Study needs further confirmation with more no of participants in the study.

**Conclusion:** The traditional *hathapradeepika* description of diaphragmatic breathing which unfortunately has been paid insignificant attention could definitely be promoted as a very effective practice for management of stress in modern era.

**Key words:** *hathayoga, Diaphragmatic breathing, heart rate variability, pranayama*

## A COMPARATIVE STUDY OF THE EFFECT OF PERFORMING SIDDHASANA AND PADMASANA, THE MEDITATIVE POSTURES

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**Introduction:** The traditional yogic texts describe *Siddhasana* and *padmasana* as the best meditative postures. A comparative study was carried out to study the effects of performing Siddhasana and Padmasana on ANS.

**Material and Methods:** The research based camp was conducted for 10 days for each of the asanas, in June 2011 for *Siddhasana* and in July 2011 for *Padmasana*. A group of 8 *sadhakas* practicing *Yogasadhana* regularly was selected. The sequence of daily practice included *Kapalbhati*, *Trataka on Omkara* and prayer followed by anti rheumatic *pavan muktasana* series, for 20 minutes. Practice of *Siddhasana/ Padmasana* was given for 20 min for initial few days which was subsequently increased to 30 min with *sakshibhava*.

Heart rate, heart rate variability, pulse plethysmography, electro dermal activity were recorded on Biopac systems (part No.MANBSL 3S). The capacity of cardio respiratory muscular apparatus was assessed by conducting 'six min walk test'. The parameters were recorded before and after camp.

**Results:** Stastical analysis was done using SPSS version. There is no statistically significant difference between the results of Siddhasana and Padmasana for ANS parameters. Both these asanas were found equally effective to balance sympatho-parasympathetic tone of nerves system

**Conclusion:** These results are found consistent with ancient description of the postures in *Goraksha Shataka*, (*Kaivalyadham*, Lonavala print.) whereby it states "among the practices of all *asanas*, only two i.e. *Siddhasana* and *Padmasana* are specific and equally important".

## EFFECTS OF MEDITATIVE STATES ON LONG LATENCY AUDITORY EVOKED POTENTIALS

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**Background:** Different forms of meditation have shown distinct effects in the brain leading to state and trait changes. Better understanding of process and context of meditation would lead to better models of neural substrates of meditation.

**Aim:** To assess the effect of four states, of wakeful consciousness traditional yoga text [two controlled (*canalata*, *ekagrata*), and two meditative states (*dharana* and *dhyana*)] on long latency auditory evoked potentials (LLAEPs).

**Material and Methods:** Forty eight male subjects within the age from 18 to 30 years ( $M = 19.33; \pm SD = 2.56$ ) with a minimum experience of one year in meditating “OM” were selected. Each subject was assessed in four sessions, i.e. two meditation and two control sessions. The two meditation sessions were (i) *Dharana* (i.e. focusing on the symbol OM) and (ii) *Dhyana* (i.e. effortless single thought state “Om”) on other hand two control sessions were (i) *Ekagrata* (single topic lecture on meditation) and (ii) *Canalata* (i.e. random thinking). All four sessions were recorded on four different consecutive days and consisted of three states, i.e. pre, during, and post.

**Results:** RMANOVA were performed followed by a *post hoc* analysis with Bonferroni adjustment for multiple comparisons between the mean values of different states (Pre, During 4, and Post). The results showed that there was a significant decrease in the amplitude of P1, P2 and N2 waves during *canalata* ( $p < 0.01$ ;  $p < 0.001$  respectively) and *ekagrata* ( $p < 0.01$ ;  $p < 0.01$ ;  $p < 0.05$  respectively) sessions and a decrease in the latency of P2 wave during *dhyana* ( $p < 0.001$ ) session.

**Conclusion:** The results suggest that there was a facilitated information conduction at the mesencephalic–reticular level selectively during *dhyana* phase of meditation.

Thus studying meditation according to traditional discipline helps localized to the neural correlates of phases of meditation.

**Keywords:** Meditation long latency auditory evoked potentials yoga

**BLIND PRACTICE OF ASANS AND PRANAYAM  
WITHOUT PAYING HEED TO ONKAR UPASANA IS NOT YOG;  
IT IS NOTHING BUT WASTEFUL SQUEEZING OF NERVES**

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**Background:** My sadguru Swami Satyanandji Sarswati predicted about 80 years ago in his masterpiece work ‘ Bhakti Prakash ’ as follows : Without the meditative asan of Onkarsawrup Ram Nam, the practice of various asans however perfect should be compared to a dancer who performs in a circus and such practice is a wasteful squeezing of nerves and insistent pulling and pushing of physical parts. In lieu of this , the author is perturbed over the rampant practice of this so called YOGA serving to misguide the populace all over the world with likelihood of dire consequences that may ensue. In my presentation, I wish to propose how this situation can be corrected so that we do not forget the true meaning of YOG , i.e. seating the One Almighty Onkar Shri Ram in one’s heart.

**My Laboratory and the Message:**

It is my Ghat Mandir where Sadguru Satyanandji Maharaj filled me with true essence of Nam Yog while I was engaged in Ph D in USA at the age of 24. . The blind and prolonged practice of Asan and Prayanam may damage our nerves ultimately and consequences can be lethal in the long run. It is about time that we discover our self-effulgent Shushmana nerve with the blessings of a true yogi perfected in Nam Yog and then practice of guided asans and pranayams could prove fruitful in blossoming our thousand-petalled lotus consummating in perfect union with The Most Compassionate and All- Powerful Parmatma residing within each one of us. Certain principles and practices of Nam Yog will be discussed and elucidated in conjunction with Asans and Pranayams as preached and established by my Mentor Swami Satyanand ji Maharaj to give a much needed guidance to the people of the present world groping in the darkness of so called Yoga Shivirs and Yoga teachers.

**Key Words:** Yoga, yog, Nam yog, asan, pranaya

## EFFECT OF INTEGRATED YOGA THERAPY ON BODY COMPOSITION IN TYPE 2 DIABETES MELLITUS, A PILOT STUDY

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**Background:** Diabetes, or type 2 diabetes mellitus (T2DM), epidemic attracts much attention by its high morbidity and mortality. Ectopic fat accumulation or obesity is an important pathogenesis in the glucose intolerance. Furthermore a strong association exists between body fat, metabolic syndrome, and T2DM. The present study was planned to evaluate the integrated yoga based lifestyle intervention on body composition and anthropometric measurements in T2DM.

**Method:** Study was conducted in a residential yoga health care center, in Bengaluru, India, between September and October 2010 for 6 weeks. Seven voluntaries (five female) with a mean age of  $62.1 \pm 2.41$ , and who satisfied inclusion criteria are included in the study. Baseline data were taken in first week, Body composition (body fat, lean mass, and water percentages) were measured by a body-fat analyzer (BF 905, Maltron, UK), and anthropometric measurements included (waist and hip circumferences) and BMI. This was a single group pre-post pilot study. An integrated yoga program combines practices intended to act at physical, emotional, intellectual, and spiritual levels and includes *Āsanas*, *Prāṇāyāma*, *Kriyā*, meditation, notional correction, counseling, and devotional sessions.

**Results:** We found the changes in the expected directions for all variables, however small sample size reduced the power greatly.

**Conclusion:** Though a promising trend is observed we need large sample to conclude above findings. Thus results of this study will form basis for future full-fledged studies with better control and sample size.

**Key words:** Yoga, Body composition, Diabetes mellitus.

## **A MULTIMODAL IN-PATIENT APPROACH INCLUDING YOGA, TO REHABILITATION OF CHRONIC NEUROLOGICAL DISEASES - A PILOT STUDY IN GERMANY**

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**Objective:** To study the effect of integrated yoga therapy along with multimodal rehabilitation techniques in the rehabilitation of chronic neurological diseases in an in-patient setting.

**Method:** The study was conducted at a neurological rehabilitation centre- KWA-Klinik Stift Rottal in Bad Griesbach Germany. Twenty patients (11 female and 9 male, age  $54.4 \pm 9.50$  years) with different neurological diseases volunteered to participate in the study. It was a single group study with pre-post design. The yoga intervention included breathing practices, yogic loosening practices, Kapalabhati (Rapid nostril breathing), Nadishuddhi Pranayama (alternate nostril breathing), Asanas (Physical Postures), and Deep Relaxation Technique. Patients underwent yoga training for 1 hour daily for 5 days a week along with other conventional rehabilitation procedures. Pain analog Scale, Spasticity Analog Scale, Barthel Index, Timed up and go test, Hospital Anxiety and Depression Scale (HADS) and WHOQoL-Bref questionnaire.

**Results:** Significant reduction in pain scores (66.97%,  $p=0.001$ ), spasticity scores (64.47%,  $p=0.001$ ) anxiety scores (29.05%,  $p=0.02$ ) and non significant decrease in depression scores (21.86%,  $p=0.065$ ) was observed. Improvement in Barthel index (10.38%,  $p<0.001$ ), timed up and go test (11.63%,  $p=0.001$ ) and physical (4.92%,  $p=0.031$ ), psychological (4.79%,  $p=0.036$ ) and environmental domains (9.12%,  $p=0.001$ ) of health on WHOQoL was observed.

**Conclusion:** This study has shown that it is feasible to integrate yoga in a multimodal approach to neurological-rehabilitation in an inpatient setting with no side effects and was acceptable to German population despite the fact that yoga is not commonly known as a therapeutic tool in Germany.

**Keywords:** Neurological Diseases, In-patient rehabilitation, Yoga.

## **INFLUENCE OF REGULAR YOGA THERAPY ON COGNITIVE FUNCTIONING AND BLOOD GLUCOSE LEVELS AMONG ADULT TYPE 2 DIABETICS.**

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### **Background:**

Cognitive problems in middle aged diabetics are 8 times more compare to non diabetics. Yoga has a positive effect on glucose tolerance and insulin sensitivity in Type 2 Diabetes Mellitus (DM<sub>2</sub>) and it can cause improvement in aspects of perception, attention, and cognition.

### **Methods:**

This was a cross-sectional study where in 150 literate subjects between 30-65 years, 50 DM<sub>2</sub> practicing yoga regular and 50 Type DM<sub>2</sub> who never practiced yoga and 50 normal healthy volunteers were recruited into 3 categorized groups (total mean age of subjects was  $54.11 \pm 6.56$  in years). Daily one hour practice of integrated yoga therapy consisting of asanas, pranayama, suryanamaskara and cyclic meditation was given to the yoga group (mean duration of yoga practice was  $17.3 \pm 14.36$  in months). Cognitive assessments of Speed, Attention, Executive functions, Verbal learning and Memory ability, Comprehension was done by using NIMHANS Neuropsychology battery and Fasting blood glucose (FBG), 2 hour Post prandial blood glucose (PPBG) levels were measured in venous blood.

### **Results:**

DM<sub>2</sub> into yoga group showed significantly [ $P < 0.001$ , (Mann Whitney, ANOVA)] better cognitive speed, attention ability, executive functioning, verbal learning ability and memory ability, comprehension and reduction in FBG, PPBG levels compared to the DM<sub>2</sub> Non yoga group. The healthy volunteers group showed better results in all cognitive tests compared to the other two groups. There was no significant difference between DM<sub>2</sub> yoga group and normal healthy volunteers group.

### **Conclusion:**

Regular long term practice of yoga prevents cognitive decline in DM<sub>2</sub>.

### **Keywords:**

DM<sub>2</sub>, Cognitive Functions, Integrated Yoga Therapy

## EFFECT OF CYCLIC MEDITATION IN PSYCHOMOTOR PERFORMANCE ON CHILDREN

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**Background:** The two-fold process in the Cyclic Meditation (CM) namely concentration as stimulation to break the stagnation of mind and sustained attention to calm down the distraction of the mind helps in the growth of practitioners. Six Letter Cancellation for the first and Digit Letter Substitution test for the second are apt tools for their measures. No normality tools were available for Indian Students as also data related to use of CM for students. Hence, this study was taken up.

**Methods:** The study was performed on school students (Male =528; Female = 315) with age range from 13 to 16 years group mean age  $\pm$  S.D. (13.94 $\pm$ 0.98). The base line data was used for the developing normative data. In the self as control design students were participated in two sessions, i.e. Cyclic Meditation (CM) and Supine Rest (SR) for a period of 22:30 min. Six Letter Cancellation Task and Digit Letter Substitution Task were administered before and immediately after each session.

**Results:** The present study was set out to obtain normative data (currently unavailable) for the school students between 9 and 16 years of age. The Six Letter Cancellation Task (SLCT) and Digit Letter Substitution Task (DLST) were used as measures of psychomotor performance of concentration and sustain attention, attention span and information processing speed.

For the SLCT the Multiple linear regressions provided a multiple R value of 0.538 with a corresponding R<sup>2</sup> determination index of 0.29, indicating that 29% of the score variance was explained by the combination of age and sex.

### **Conclusion**

These results suggest that both CM and SR lead to improve in performance in this task. Further study requires following long-term practice and experience compared to novices.

## **APPLICATION OF ELECTRICAL CONDUCTIVITY OF ACUPUNCTURE MERIDIANS IN DIABETES**

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**Background:** Measuring bio-impedance is one of the common diagnostic tools in Traditional Chinese Medicine (TCM). It is supposed that the properties of meridians can reflect the condition of certain organs. Present study focuses on the application of skin conductance of different meridians in diabetics as compared to normal healthy volunteers and as well comparing yoga practitioners' skin conductance with novice group.

**Methods:** In this convenience sample study, two groups were formed i.e. Diabetic group (n=80) and Normal group (n=53). Diabetic group was again divided in two group [DiaA (n=36) and DiaB (n=44)] according to measurement by two different operators. Normal group was also divided again in Yoga (n=21, males=21) and Novice (n= 32, males=15 and females=17). The groups were assessed for bio-impedance by Acugraph 3- Digital Meridian Imaging (Mirinda Technology, Inc.).

**Results:** Independent t-test did not show any significant difference for different parameters between the DiaA and DiaB groups. KI and BL meridians showed highest impedance as compared to other meridians in both diabetic groups with Upper-lower balance shifted towards the upper region predominantly. Independent t-test showed significant difference between Novice and Yoga group in energy stability, yin yang balance, upper-lower and left-right balance. The electrical conductivity of meridians of diabetic group when compared with normal group was found to be significantly lower ( $p<0.01$ ).

**Conclusion:** KI and BL meridians showed highest electrical resistance in diabetics represent most adversely effected meridians in diabetes. Overall, electrical resistance of diabetics is higher than normal healthy individual. In addition, much more balance and energy levels (impedance of meridians) were found in yoga group as compared to novice group.

**Keywords:** Yoga                      Bio-Impedance Acupuncture Meridians Diabetes

## **EFFECT OF INTEGRATED APPROACH OF YOGA THERAPY ON QUALITY OF LIFE IN PATIENTS WITH CHRONIC ILLNESSES**

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**Background:** In recent years, quality of life (QOL) has become a key concept in the medical community where health care places dual emphasis on treatment and quality of care. The World Health Organization (WHO) defines QOL as an 'individual's perception of his/her position in life in the context of culture and value system in which they live and in relation to their goals, expectations, standards and concerns.

**Aim:** To study the efficacy of a residential short term intensive yoga program on Quality of life in patients with chronic illnesses.

**Methods:** 91 patients with chronic illnesses (females 51) registered for a week long treatment at SVYASA Holistic Health Centre in Bengaluru, India. All of them practiced a disease specific module for respective chronic illnesses prepared on the basis of Integrated Approach of Yoga Therapy (IAYT), comprising of *asanas* (physical postures), *pranayama* (breathing practices), meditation and lectures on yoga philosophy. WHOQOLBref administered for measuring the quality of life before and after the IAYT intervention.

**Results:** All 4 domains and the total score of WHOQOLBref improved significantly (paired t test  $P < 0.01$ ) after a weeklong IAYT intervention.

**Conclusion:** Yoga improves quality of life in patients with chronic illnesses; this improvement is evident even within a short span of one week.

**Key words:** Chronic illnesses, Yoga, Quality of Life.

## DIGITAL MERIDIAN TOOL FOR YOGA RESEARCH

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### ABSTRACT

**Objectives:** The present study was conducted to assess the reliability of the AcuGraph Digital Meridian Imaging.

**Methods:** The study was designed to check the instrument's standardization for measurements of Chi energy levels in the 24 principle acupuncture meridians. Twenty healthy male volunteers aged 20 to 30 years, participated in the study. The study consisted of two sequences of 5 trials on each subject, conducted at the same time of the day on consecutive days. Successive trials on each day were separated by gaps of 15 minutes.

**Results:** The study checked the reliability of both the standard reporting format for the instrument, and individual readings for each acupuncture meridian in the subjects. Both were found to be subject to large variations.

**Conclusion:** The errors in the readings could be traced to three main sources, viz., variations in machines and operator consistency, inter-subject variations, and variations between readings for the same subject. The Acugraph device, combined with a well trained operator, can be very much consistent.

**Key words:** Acugraph; Reliability; Meridian

## CHANGES IN AUTONOMIC VARIABLES FOLLOWING TWO MEDITATIVE STATES DESCRIBED IN YOGA TEXTS

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**Background:** In ancient yoga texts there are two meditative states described. One is *dharana* which requires focusing, the second is *dhyana* during which there is no focusing but an expansive mental state is reached. While an earlier study did show improved performance in an attention task after *dharana*, the autonomic changes during these two states have not been studied.

**Methods:** Autonomic and respiratory variables were assessed in thirty healthy male volunteers (group mean age  $\pm$  SD, 29.1 $\pm$ 5.1years) during four mental states described in traditional yoga texts. These four mental states are random thinking (*canalata*), non-meditative focusing (*ekagrata*), meditative focusing (*dharana*), and effortless meditation (*dhyana*). Assessments were made before (5 min), during (20 min), and after (5 min), each of the four states, on four separate days.

**Results:** During *dhyana* there was a significant increase in the skin resistance level ( $p < 0.001$ ), (*post-hoc* analysis following ANOVA, during compared to pre) and photoplethysmogram amplitude ( $p < 0.05$ ), whereas there was a significant decrease in the heart rate ( $p < 0.001$ ) and breath rate ( $p < 0.001$ ). There was a significant decrease in the LF power ( $p < 0.001$ ) and increase in the HF power ( $p < 0.001$ ) in the frequency domain analysis of the heart rate variability (HRV) spectrum, where HF power is associated with parasympathetic activity. There was also a significant increase in the NN50 count ( $p < 0.001$ ) and the pNN50 ( $p < 0.001$ ) in time domain analysis of HRV, both indicative of parasympathetic activity.

**Conclusions:** Maximum changes were seen in autonomic variables and breath rate during the state of effortless meditation (*dhyana*). The changes were all suggestive of reduced sympathetic activity and/or increased vagal modulation. During *dharana* there was an increase in skin resistance. The changes in HRV during *ekagrata* and *canalata* were inconclusive.

## **YOGA A BIOPSYCHOSOCIAL-SPIRITUAL MODEL FOR HEALTH: A SCIENTIFIC OVERVIEW**

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The on-going shift from traditional to modern lifestyles is giving place to new problems to society. Today, individuals are undergoing changes in physical, emotion, cultural, social and spiritual area, which in turn influences health care scenario. Advances in medical research have reduced the trend of burden of communicable diseases. However, current system poses great challenges due to rapidly increasing incidences of stress, unhealthy lifestyle and faulty diet increasing the risk for Non-Communicable Diseases.

Yoga is an ancient system of philosophy, lifestyle and techniques that evolves the whole person consisting of the physical, the vital, the mental and the emotional aspects along with wisdom, ethics and higher quality of relationship, and the realization of the spiritual reality in each of us. Although Yoga is historically a spiritual discipline, it has also been used worldwide as alternative medicine for therapeutic intervention. It is here that Yoga appears to make a vital contribution to the modern system for management of diabetes, obesity, CAD, back pain, asthma, cancer, addiction, mental health, rehabilitation and promotion of positive health. Hence, a paradigm shift from current medical model to a 'bio-psychosocial-spiritual model' is mandatory to meet the current challenge of health issues. Therefore, current paper focuses on scientific evaluation of yoga, a bio-psychosocial-spiritual model for health based on research review.

**Keywords:** Yoga, Health, Lifestyle, Stress, biopsychosocial-spiritual model

## CHANGES IN SLEEP ARCHITECTURE FOLLOWING LONG TERM PRACTICE OF MEDITATION

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**Background:** Meditation has been shown to have an impact on sleep architecture and overall quality of sleep. This study compared the sleep patterns of long term meditators with that of non-meditators.

**Methods:** We studied a Buddhist meditation technique known as “*Ana-Pana-Sathi*” which means observation of inhalation, exhalation and the gap between the two.

Whole night polysomnographic measures were recorded in 55 male volunteers [age range 21 to 55 years; group mean age  $\pm$  S.D.,  $28.21 \pm 6.15$  for meditators ( $n = 28$ ) and  $27.93 \pm 6.99$  for non-meditators ( $n = 27$ )] matched for their age and education. Meditators had a minimum experience of 3 years in their practice. Recordings were made in accordance with the guidelines from Rechtschaffen and Kales manual. Electroencephalogram (EEG) was recorded from the F4, C4 and O1 electrode sites referenced to linked earlobes (A1 and A2) along with bipolar electro-oculography (EOG) and electromyography (EMG).

**Results:** Independent samples t-test was performed to compare means of both the groups. Meditators had a relatively shorter sleep latency compared to non-meditators ( $t = -2.932$ ,  $p < 0.01$ ). Also meditator's spent less time in Stage 1 ( $t = -2.295$ ,  $p < 0.05$ ) and more time in Stage 3 ( $t = 2.486$ ,  $p < 0.05$ ) as compared to non-meditators. Overall, meditators spent more time in slow wave sleep ( $t = 2.148$ ,  $p < 0.05$ ) as compared to non-meditators.

**Conclusion:** Consistent practice of meditation appeared to have a positive impact on quality of sleep as demonstrated by increase in the time spent in SWS, decrease in sleep latency and a decrease in the duration of NREM 1 sleep.

**Keywords:** polysomnography, sleep, meditation, yoga



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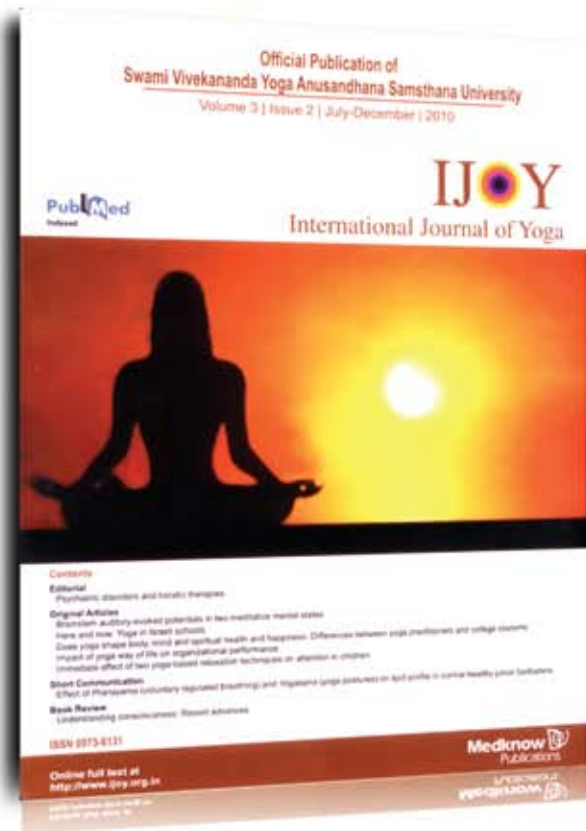
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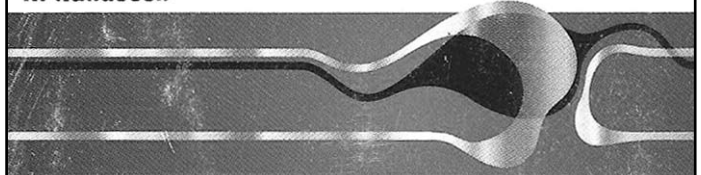
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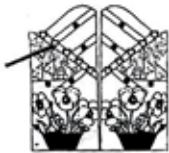
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