

process(oxidative stress & helps in re-establishing health & recovery of Diabetes due to its anti-oxidant property. Modern researches also have shown that T2DM can be effectively prevented if Haridra and its active principle curcumin is regularly given in those having Pre diabetes.

Thus Dhatri and Nishacombinely act as anti diabetic due to its rasa,virya and vipaka help to normalize the functions of jathragni and dhatwagni. That in turn helps to form dhatus in proper proportion with samyak quality.

Laghurukshaguna helps for the shoshanof bahudravashleshma and reduction of vitiated meda and kleda. Thus once these factors get normalize in the body they in turn clear the path of vata which stops the depletion of vital dhatus and normalize the physiology of the body and thus it get prevent the disease.

## TCAM IN MIDDLE-EAST COUNTRIES- AN OVER-VIEW OF SCOPE AND LIMITATIONS SP 115

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BHMS

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The Middle East and the Gulf Cooperation Council (GCC) have accepted Traditional, Complementary and Alternative medicine (TCAM) and its multiple wide-ranging practices in addition to the conventional western medicine. The UAE in particular has been aligning its TCAM policies for the past 20 years in line with the WHO's Global Strategy on Traditional and Complementary Medicine. Other countries in the GCC are vamping up their resources and policies to follow the GCC Executive Council's position in placing TCAM on equal footing with conventional medicine. With the demand for complementary and alternative medicine growing and with its acknowledgment from the UAE's health authorities, insurance companies are also supporting promotion of TCAM. This presentation is a compilation of in-depth study about the past, current developments and future prospects of TCAM in GCC. The scope of TCAM with regards to planning and regulation, infrastructure and policies that help is effective development and implementation of TCAM with special reference to GCC will be discussed.

## NEUROSCIENCE OF YOGA

SP 116

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Yoga Forum, Munich and Center For Behavioural Medicine (CBM), Pune initiated "Indo-German collaborative project on Neuroscience of Yoga" with participation of medical research institutes in India and Germany. In addition to path breaking research on differential modulation of ANS (Autonomic Nervous System) through yoga, several residential training workshops were conducted since 2005 with support from Munich Open University (MVHS) to impart relevant neuroscience training to experienced Yoga teachers from Germany, Switzerland, and Austria, and recently in India.

The central theme of 'Neuroscience of Yoga' is to advance understanding of classical Ashtang Yoga (Yogasutren) employing the framework of neuroscience (viz. regulation of brain processes and by extension regulation of body physiology) and the focus of the collaborative program has been on 'process research' i.e. understanding the mechanism. The presentation gives a summary of these developments.

**YOGASANAS AND DIFFERENTIAL ANS MODULATION****SP 117**Dr. Leena Phadke<sup>1</sup><sup>1</sup>MD, Associate Professor of Physiology & Clinical Research, SKN Medical College, Pune

Autonomic Nervous System (ANS), the brain-body link, is the controller and integrator of key physiological processes. Optimum balance between the two subdivisions of ANS viz. Sympathetic and Parasympathetic is considered vital for healthy state. Disturbance in ANS rhythm is associated with various diseases of public health significance that includes diabetes, obesity, metabolic syndrome, hypertension and heart diseases. HRV (Heart Rate Variability) computed from time series analysis of ECG is a convenient non-invasive tool for assessment of ANS modulation.

Our studies with a group of experienced yoga practitioners showed *differential modulation* of cardiac autonomic system *during* performance of different yogasana – while some asana increased sympathetic modulation, others generated parasympathetic increment. Increased HRV through augmented parasympathetic and attenuated sympathetic modulation sans bradycardia represents a unique pattern and a ‘physiological paradox’ hinting that the character and mechanism of cardiac autonomic modulation in yoga is distinct. This research has paved way for development of evidence-based yoga interventions.

**YOGA AND HEART RATE VARIABILITY : YOGIC AND AYURVEDIC CONCEPTUALIZATION****SP 118**Reinhard Bögle<sup>1</sup><sup>1</sup>Yoga Forum München, Germany

The nervous system is one of the most important systems for regulations in a human being. As a matter of fact it is the autonomic nervous system (ANS) in particular, that is a basis of life. From yogic and Ayurvedic point of view the *vayu* is the main functional system which is responsible for actions, regulations and stabilisations. The main goal of yoga is to develop a defined, guided, regulated and self regulated balanced activity pattern of the *vayu*. Therefore the eight parts of yoga according to the yoga sutras have to be done step by step. It can be observed after a practice of 5-10 years including *sirs asana* (head balance) and *sarvang asana* (shoulder balance) that several yogic markers happen. These are among others being able to hold the position for more than 5 minutes in a balance way, free breathing, free concentration and free activity of the *vayu* on the *marmas* (vital/lethal spots). In our opinion is the functional work of the bodily and the mental part of the *vayu* together with consciousness on the *marmas*, in relation with the outside and in relation with the inside is the crucial point. It sounds easy and is not easy to activate this patter. On the other hand if it is disturbed this pattern in the autonomous process does not occur. These specific markers indicate a special yogic phase, which seems to correlate with the measured activity of the parasympatic part of the autonomous nervous system.

**A CASE OF YOGA AND PSYCHOTHERAPY****SP 119**Hanni Hüüs<sup>1</sup><sup>1</sup>Yoga Forum Munich, Steinstr. 42, 81667 Munich, Germany

A woman came in a difficult situation. One important point that she suffering from bilateral muscle spasms of the legs; the other important point was that her mother kicked her and her father out of the flat. Yoga and psychotherapy (system energetic) was done with this person simultaneous by the same teacher/therapist. Yoga asanas were used to make her understand basic concepts and her own relations. First her relationship to her own body and then personal relationships outside were dealt with. It was very interesting to observe that the woman learned to find relevant differentiations (*viveka*), for example the proper identification of her feet, lower leg and upper leg. It was very important for her to learn that she has bones. Before that she had only thought of muscles. She allowed herself to look for and find a flat of her own. This was not easy for her because her mother was trying to keep her under the impression that she is not capable of coping with this situation. The fact that her

father could not adjust to the new situation and became psychologically instable gave her feelings of guilt. She thought that is not ethically correct to lead a happy life while at the same time her father was having difficulties. In this case it was also possible for her to find the relevant differentiation between herself, her mother and her father.

Yoga is understood as standing on one's own feet and being able to face the positive and negative aspects of life, which this woman indeed learned to do so.

## YOGA IN ADULT EDUCATION CENTRES IN GERMANY

SP 120

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Adult education in Germany is one of the pillars of public national education. The local governments hold responsibility for these adult education programs. The promotion of health has been receiving great interest and, therefore, now plays an important role in the courses offered. As a matter of fact, in many institutions this topic has the highest number of courses and participants. The participants pay for the classes. This shows the growing demand of people to learn more about their body, the own posture, to adapt to positive attitude and to learn about the yogic understanding of health.

## HOW IMPROVEMENTS CAN BE MADE THROUGH YOGA, ESPECIALLY FOR LOWER BACK PAINS – A NEW MODEL OF THE SPINAL CORD

SP 121

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The main point is the pressure on the spinal cord at the intervertebral discs in different positions. Science now expands the understanding of the functioning of the discs with a new "spring model". The spring in the discs is not so much the fluid, but a special construction of the fibres within. It will be shown how in a proper practice of yoga the upwards direction can be supported. In yoga we have a "golden rule": *from bottom up*. That means in a standing position the start is in the foot, the leg upwards to the pelvis and from the sides of the pelvis to the sides of the chest. This in physiotherapy is called the global stabilisation. If it is missing, the local stabilisation of the spine becomes very difficult. The spring activity works with controlling nerves (proprioceptors). It can be learned in yoga with proper knowhow to activate this function. Otherwise shear forces happen, which create disturbances.

An example of a young patient shows this. She has a heavy scoliosis and a Klippel-Feil-Syndrom and the spine is stabilized with a titanic stick. It will be shown that nearly no bending or turning in the spine is needed to practice the asanas.

A demonstration model of the "spring forces" will be shown for the understanding of the new spine model. The expectation is that this model will be very helpful in future for the quality insurance of asanas.

## IMPORTANT POINTS OF YOGIC LEARNING - FROM YOGA TO YOGA SCIENCE

SP 122

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There is a worldwide growing interest in the field of health promotion influenced directly or indirectly by yoga, Ayurveda and other disciplines. Adult education/university extensions, governmental organizations, companies, etc. integrate concepts inspired by Asian medicine and their health promotion strategies. More and more people are ready to do something themselves for their health. Evidence from practical work, interest of many people and research show that this will be a growing field in the near future. There were WHO initiatives

for understanding health in its bio psychosocial dimension (first definition, 1946) and creating health where people live, at their workplace, at school and in the family (second WHO definition, 1986, Ottawa Charta). After this the worldwide health promotion began to develop greatly. Since 2014, when the UN declared the International Day of Yoga expecting improvement in health worldwide, yoga has been playing an important role in diverse programs. Therefore, in view of this acknowledgement of yoga, I would like to now emphasize and stress the importance and necessity of developing yoga as a science with a professional core curriculum. As a part of a health program the practice of yoga would play a central role whereas other disciplines would be incorporated. Such disciplines would be Ayurveda, Sanskrit, biomedicine, psychosomatics, psychology, systemic thinking, biomechanics of sports, psychotherapies among others. In our discussions concerning this concept we should also think about including other points. Some examples are: firstly, the four mental parts engaged during body movements; secondly, the five stages of citta and the modern systemic, psycho-emotional learning; thirdly, the marmas of yoga and Ayurveda as most important criteria of yoga and lastly, the early and modern systemic thinking in Yoga.

## YOGA, AN IMPERATIVE CORE OF LIFE FOR CONTEMPORARY LIFESTYLE IN NAFLD

### SP 123

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In today's contemporary lifestyle, the food preparation and presentation has changed significantly. Because of the rapid pace of life the trend towards urbanization, one has less access to fresh food. The dependency on packaged and processed food has increased tremendously. It undeniably has some deleterious effect on both mental and physical health. is quite different from that of the Western concept

Ayurvedic perceptive of nutrition is concerned with the effects of several types of food on the quality of the mind, balance of the dosha and the digestion. Ayurved states that almost all the diseases arise on the physical level from improper and inadequate metabolism system and it generally leads to weak and imbalanced functioning.

The prevalence of Fatty Liver Disease (FLD) has been on the rise, now affecting approximately 25% of adults. Around half of the fatty liver cases are associated with obesity, diabetes, or alcohol consumption. However, there are also many unexplained cases called Non-Alcoholic Fatty Liver Disease (NAFLD). NAFLD has few or no symptoms at first, but it can progress on to fibrosis of the liver, which is more serious liver damage. Researchers have linked food additive monosodium glutamate (MSG) to obesity and disorders associated with the metabolic syndrome including progressive liver disease.

A great deal can be done to improve the quality of food and prolong life by consuming a healthy Aahar and maintaining a good lifestyle.

Yoga is a complete system or better a Science or A way of life. Yoga being a way of life can be applied irrespective of age, gender, profession, state, conditions, problems and sufferings. Yoga can be applied in any/ every human endeavour –personal, professional, social, family and spiritual level.

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## A REVIEW STUDY OF PHARMACOLOGICAL ACTIVITY OF RUBIA CORDIFOLIA ;FOR THE FUTURE NEW DIMENTIONAL STUDY SP 138

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The plants play a vital role in maintaining human health and contribute towards improvement of human life. These plants are important components of medicine, cosmetics, dyes etc. In present time focus on plant research has increased all over globe enormously. There are thousands of plant species having good potential of offering direct therapeutic effect individually or in combination.

The present review study is designed to collaborate functions of manjishtha that is Rubia cordifolia Linn belonging to the family Rubiaceae. Mainly roots of Rubia cordifolia are used in medicines, roots contains substantial amount of anthroquinones. These are responsible for anti bacterial ,anti malarial, anti fungal, Anti cancerous,urinary disorders, immunomodulatory etc activities.

This poster highlighted review study of Rubia cordifolia. This may useful for furthue new dimensional study to conclude for what functions manjishtha will be more effective individually or in combinations.

## YOGA IN PSYCHOSOMATICS SP 139

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She will be talking about experiences in working with psychosomatics and with lung patients The University of Regensburg will presented as an example for the implementation of yoga in psychosomatics in an inpatient ward in the hospital. Yoga is becoming more and more important in context with psychotherapeutic and body-mind methods. Furthermore, the field of science is highly interested in empirical proof of yoga's therapeutic effectiveness.

## WORK WITH DYING PEOPLE – HOW CAN THE HELPER SURVIVE SP 140

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It is obvious that one of the biggest problems which exist in the work with dying people is the inner strength of the helper. This paper shows how a regular yoga practice and proper yogic thinking can help to regulate and stabilize a person under these circumstances. As an example of a case, a woman (helper) demonstrated that she could properly learn Yoga asanas and practice on a daily base. One of the main concepts here is reaching a personal understanding of the marmas, which are spots where either death can enter or life be stabilized - as known in Ayurveda and yoga. One's own personal measurement is based on either one's tendency towards life or one's tendency towards death. According to yogic thinking these spots have to be protected. A person can find his/her own power of his/her own life there. The asanas can be practised with integration of this knowledge, and can lead to better resilience against negative effects. A main way of thinking was "Live till the end" where the helper has to live, the dying person can live and the helper practices resilience.

The woman was able to avoid getting back pains while having to lift patients a lot with the strength and knowledge of the appropriately trained asanas. It was observed that a strong relationship to her own life through the contact to her own marmas was very helpful. This especially helped her to not identify with the dying person, but to act as a person accompanying him/her and to help to ease pains.

**YOGA IN THE HEALTH MANAGEMENT IN COMPANIES**

SP 141

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The second WHO definition of health focuses on the institutions and settings where health is created. Health management in companies and institutions belong to one of these fields. Examples will be given to show how this works with good results. The companies are Swiss flight controllers, Winterthur Insurance, the Bavarian department of health and nutrition safety, Gieseke, the municipal works Munich, etc. Here yogic health concepts and other health promotion programs were introduced. People were trained to plan their life and daily activities according to proper priorities and to an implemented concept of the importance of topics in life (the yogic and Ayurvedic marmas). Especially people who sit a lot in their jobs profit from a proper understanding and training in the yogic way of sitting which we have developed. People have had a lot of questions also in relation with a proper daily routine. At a later stage heart rate variability can be included.

**EVALUATION OF STABILITY AND ANTI-OXIDANT POTENTIAL OF OILS FROM COLORED VARIETIES OF *S.INDICUM* LINN. A RECOMMENDED SOLVENT IN TRADITIONAL AND MODERN MEDICINE.**

SP 142

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**Abstract**

*Til* oil or sesame oil is recommended as one of the best vehicle or *Anupaan* for many Ayurvedic formulations. It is official in both Indian and British Pharmacopoeia. The oil may be obtained from colored seeds of *Sesamum indicum* Linn. viz: white, brown and black. However, many of the standard texts on Ayurved claim superiority of oil from black seeds for medicinal purpose and hence, strongly recommend its use. The objective of present study was to validate this claim using various modern analytical tools. The oils were obtained by cold expression of seeds and were standardized as per the official monograph for ascertaining their quality, purity and safety. The fatty acid composition of the oils was studied using infrared spectroscopy (IR), Gas chromatography (GC) and GC coupled with mass spectrometry (GCMS). The anti-oxidant potential of oils was tested using free radical scavenging activity (DPPH assay). The experimental findings revealed unusual stability of oil from black seeds even at (-4°C). This may be attributed to absence of triply unsaturated fatty acids. Moreover, the presence of higher concentration of phenolic antioxidants imparted superior free radical scavenging activity to the oil compared to the oils from white and brown seeds.. These findings therefore substantiate the claim of superiority of this oil over that of oil from white and brown colored seeds.

**Keywords**

Cold expression, phenolic antioxidants, comparative evaluation, free radical scavenging

**Introduction**

Sesame oil (*gingelli*) has been widely used since ancient times for culinary and medicinal purposes. India is the largest producer and exporter of this oil which is available in cold pressed, hot pressed and refined forms. Light colored seeds are preferred for extraction due to relatively higher yields.

The oil is semi-drying and contains oleic, linoleic acid, small amounts of stearic, palmitic and arachidic acid glycerides and sterols. Its unsaponifiable fraction contains sesamin (C<sub>20</sub>H<sub>18</sub>O<sub>6</sub>, which can exist in three isomeric forms, sesamin, asarinin and epiasarinin,. The oil is characterized by two lignans, sesamin and sesamol and during refinement, two phenolic antioxidants are formed, sesamol and sesaminol.

It is laxative in large doses. It is used for manufacture of soaps, cosmetics, insecticides and as vehicle for fat-soluble drugs, in antacids, ointment and parenterals. Due to its exceptional physical and chemical stability, it is blended with other oils to improve their stability. A report claims its superior anti-oxidant potential. Standard