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BIOELECTROMAGNETICS SECTION CIRPS



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**Allan Widom 82**

*Celebrating Allan Widom's contribution to physics  
on his 82<sup>nd</sup> birthday*

<https://www.vglobale.it/?s=allan-widom>  
<https://www.researchgate.net/scientific-contributions/Allan-Widom-2120927671>

Wednesday 16 March 2022

16.00-20.00 ROME

**Webinar/**

**COHERENCE 2022**

# Coherence in Life:

State of Art and Perspective.

**Madan Thangavelu  
Vincenzo Valenzi**

<http://www.cimb.me/dipartimenti.html>

*Links between the Science of AYUSH traditions  
and  
Contemporary Modern Science*

# Denis Noble – 10 rules of complex systems

## Principles of Systems Biology

Denis Noble at a meeting on Systems Biology at Chicheley Hall, Newport Pagnell, August 2013

Noble has proposed Ten Principles of Systems Biology:

**Biological functionality is multi-level**

**Transmission of information is not one way**

DNA is not the sole transmitter of inheritance

The theory of biological relativity: there is no privileged level of causality

Gene ontology will fail without higher-level insight

There is no genetic program

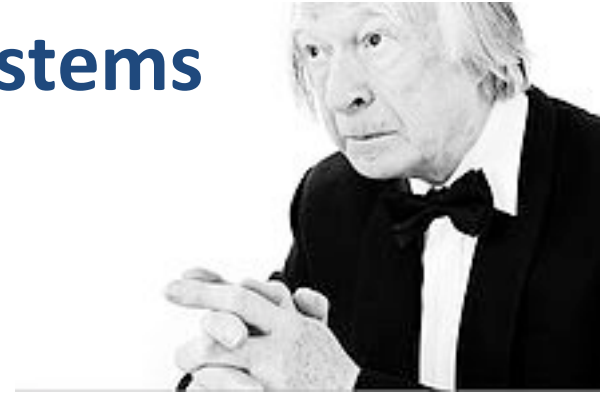
There are no programs at any other level

There are no programs in the brain

The self is not an object

**There are many more to be discovered; a genuine 'theory of biology' does not yet exist**

[https://en.wikipedia.org/wiki/Denis\\_Noble](https://en.wikipedia.org/wiki/Denis_Noble)



**Denis Noble CBE  
FRS FMedSci MAE  
(b 1936)**

Burdon Sanderson Chair of  
Cardiovascular Physiology at  
the University of Oxford  
from 1984 to 2004

# *Links between the Science of AYUSH Traditions and Contemporary Modern Science*

## **Life is not possible without coherence!**

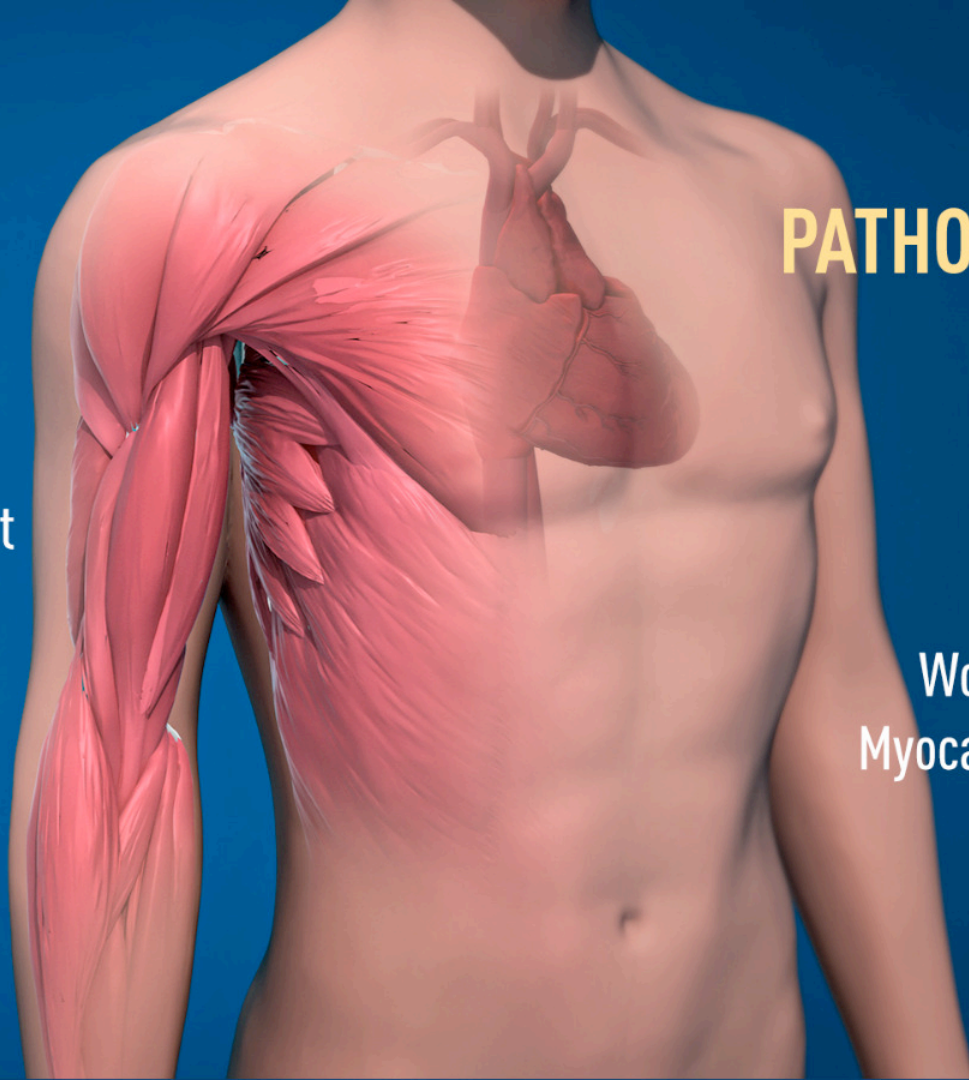
Schrödinger, *What is life?* ~1944

**“regularities only in the average”** (p. 78), emerging from the *statistical mechanisms* is not enough to explain the *enigmatic biological stability* (p. 47).

He was stressing that the attempt to explain the biological functional stability in terms of the regularities of statistical origin would be the *classical physicist's expectation' that far from being trivial, is wrong* (p. 19).

# PHYSIOLOGY

Metabolism  
Exercise  
Embryonic development  
Immune response  
Altitude adaptation  
Respiration



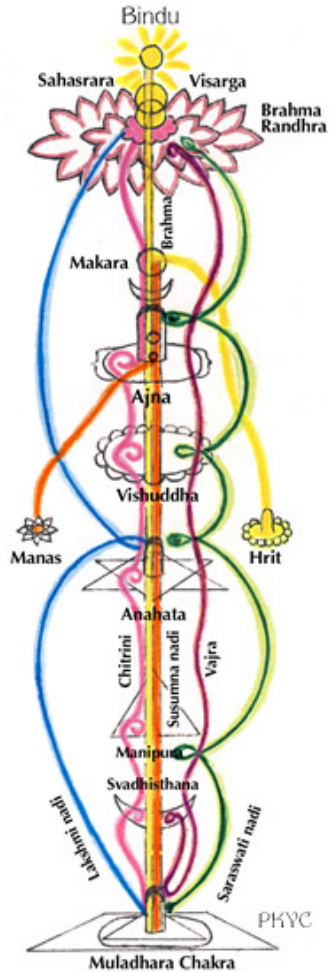
# PATHOPHYSIOLOGY

Anemia  
Cancer  
Stroke  
Infection  
Wound healing  
Myocardial infarction

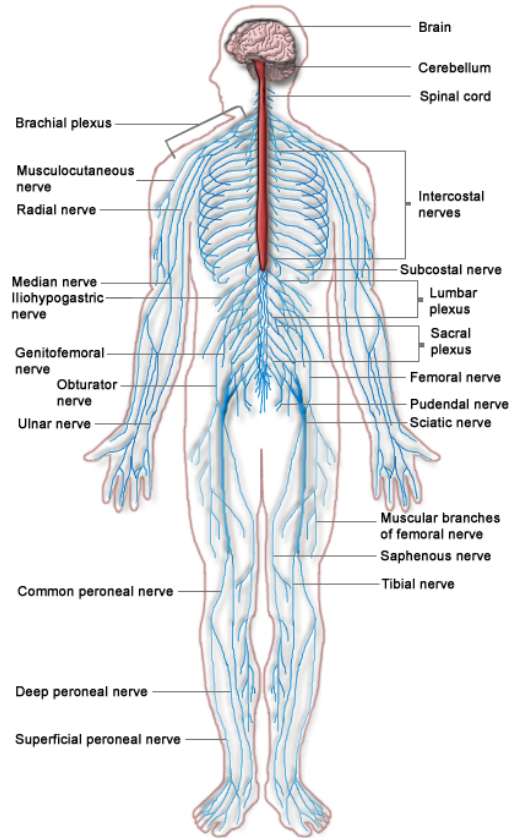
# Subtle Energies & Subtle Srotas (स्रोतस्):

Strengthening, repairing, and detoxifying of the entire subtle body

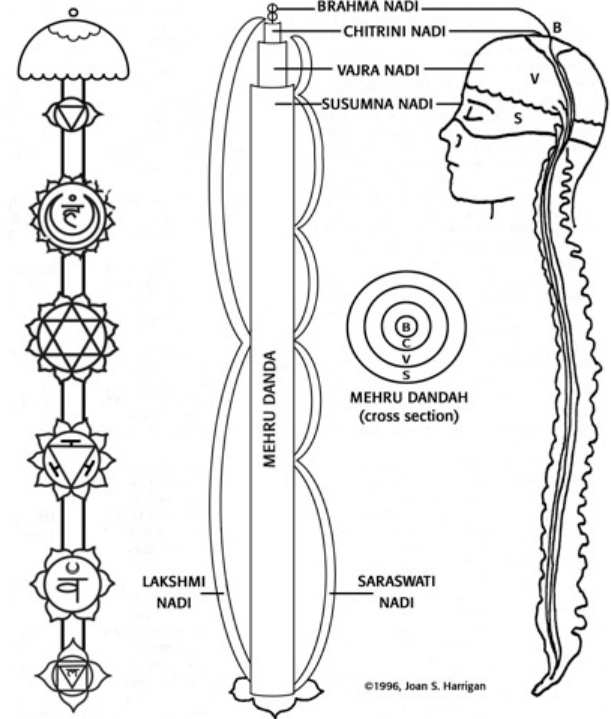
*The subtle filaments of all causal healing*



[http://en.wikipedia.org/wiki/Deep\\_fibular\\_nerve#mediaviewer/File:Nervous\\_system\\_diagram.png](http://en.wikipedia.org/wiki/Deep_fibular_nerve#mediaviewer/File:Nervous_system_diagram.png)

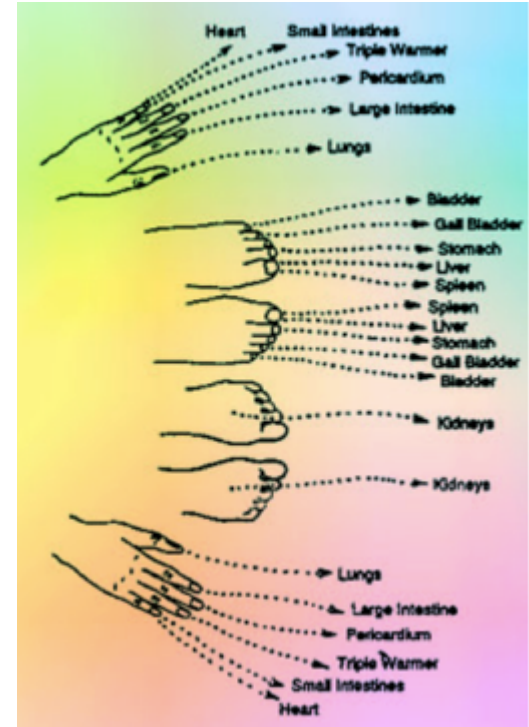
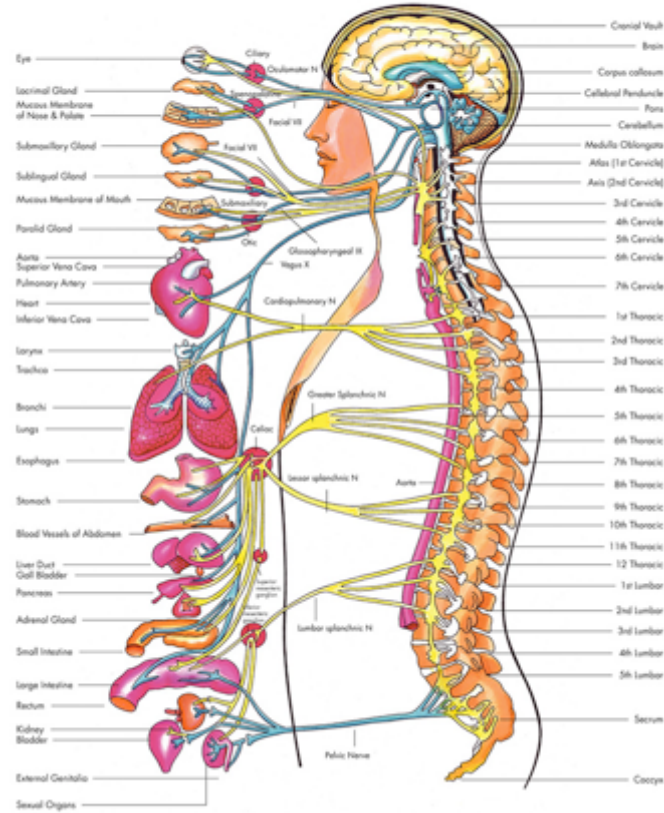
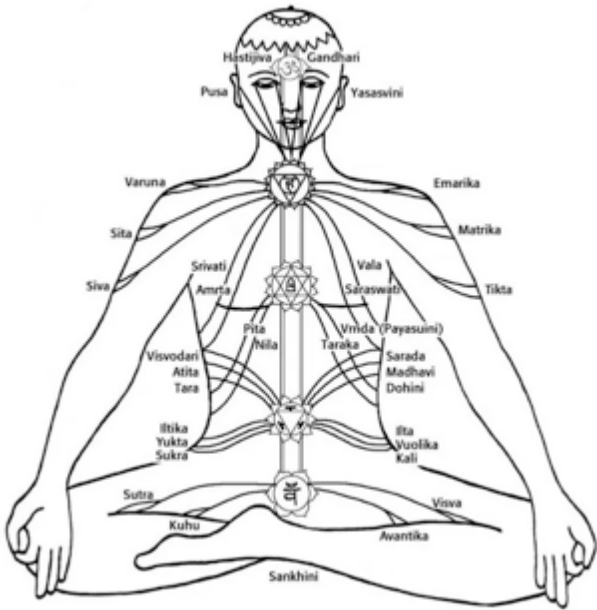


The Subtle Body: Container of Kundalini Shakti  
**Six Shakti Nadis**



[http://kundalinicare.com/?page\\_id=161](http://kundalinicare.com/?page_id=161)

# The Autonomic Nervous System



<https://www.shiatsuwithangelavt.com/shiatsu>

<https://www.dyansys.com/products-applications/product-technology/ans-monitor-technology>

Open Access | Published: 12 May 2015

# Widespread seasonal gene expression reveals annual differences in human immunity and physiology

Xaquín Castro Dopico , Marina Evangelou, Ricardo C. Ferreira, Hui Guo, Marcin L. Pekalski, Deborah J. Smyth, Nicholas Cooper, Oliver S. Burren, Anthony J. Fulford, Branwen J. Hennig, Andrew M. Prentice, Anette-G. Ziegler, Ezio Bonifacio, Chris Wallace & John A. Todd 

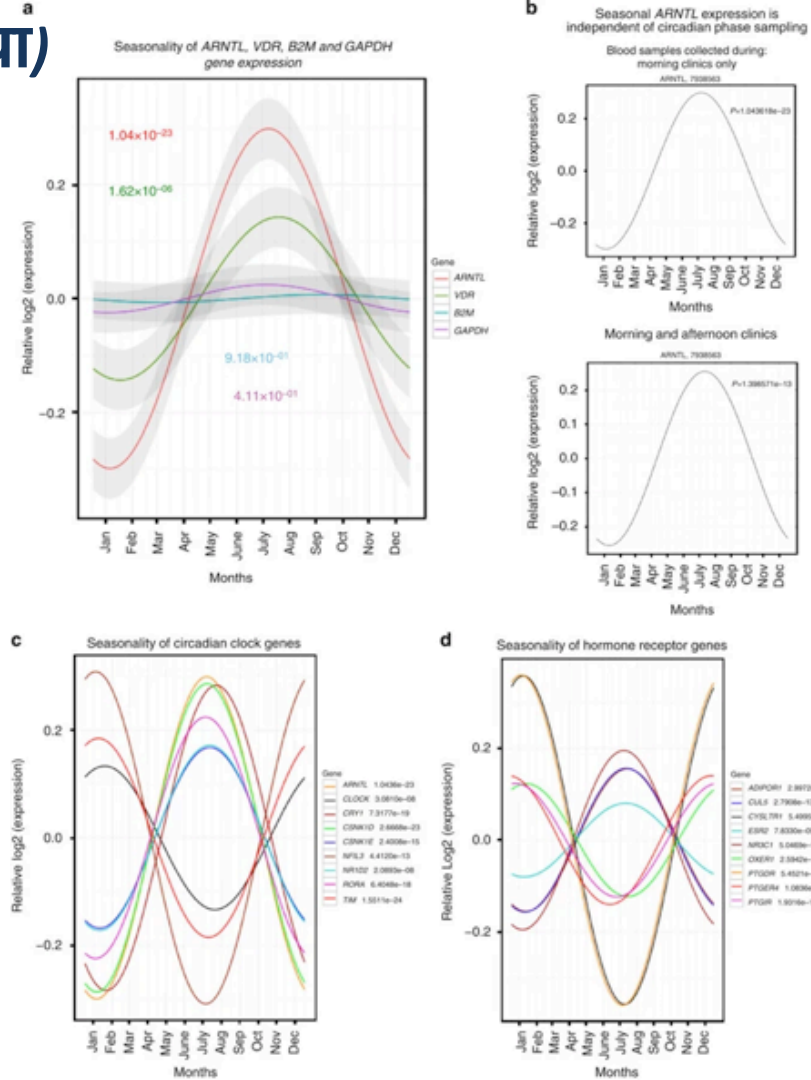
Nature Communications 6, Article number: 7000 (2015) | Cite this article

6911 Accesses | 173 Citations | 744 Altmetric | Metrics

## Abstract

Seasonal variations are rarely considered a contributing component to human tissue function or health, although many diseases and physiological processes display annual periodicities. Here we find more than 4,000 protein-coding mRNAs in white blood cells and adipose tissue to have seasonal expression profiles, with inverted patterns observed between Europe and Oceania. We also find the cellular composition of blood to vary by season, and these changes, which differ between the United Kingdom and The Gambia, could explain the gene expression periodicity. With regards to tissue function, the immune system has a profound pro-inflammatory transcriptomic profile during European winter, with increased levels of soluble IL-6 receptor and C-reactive protein, risk biomarkers for cardiovascular, psychiatric and autoimmune diseases that have peak incidences in winter. Circannual rhythms thus require further exploration as contributors to various aspects of human physiology and disease.

<https://www.nature.com/articles/ncomms8000>



### Figure 3: Seasonal gene expression in geographically distinct cohorts.

2,311 genes (2,922 unique probes) had increased expression in the summer (defined as June, July and August, mean fold change=1.2572) while 2,826 genes (3,436 unique probes) were upregulated in the winter (defined as December, January, February, mean fold change =1.3150)

**Seasonal variation was found in 9 of the 16 clock genes tested:** ARNTL, CLOCK, CRY1, CSNK1D, CSNK1E, NR1D2, RORA, TIMELESS30 and NFIL3 (which controls diurnal Th17 cell development in mice<sup>31</sup>) (Fig. 1c). Seven genes (CRY2, PER3, RORB, NPAS2, PER1, PER2 and NR1D1) did not show evidence for seasonal effects

(a) Seasonality was also observed in PBMCs collected from T1D patients in the United Kingdom (n=236 individuals). A total of 1,697 genes were seasonal in this data set. (b) The previously defined summer and winter genes from the BABYDIET data set maintained their seasonal expression patterns in the T1D samples. (c) PBMCs from asthmatic patients collected from different countries also showed seasonal gene expression. In the United Kingdom/Ireland (n=26 asthmatic individuals; 85 PBMC samples), 791 genes were seasonal, while 1,257 and 409 genes were seasonal in Australia (n=26 individuals; 85 samples) and United States (n=37 individuals; 123 samples), respectively. (d) Summer and winter BABYDIET genes maintained their seasonal expression patterns in the asthmatic PBMC samples, with their patterns inverted in Australia.

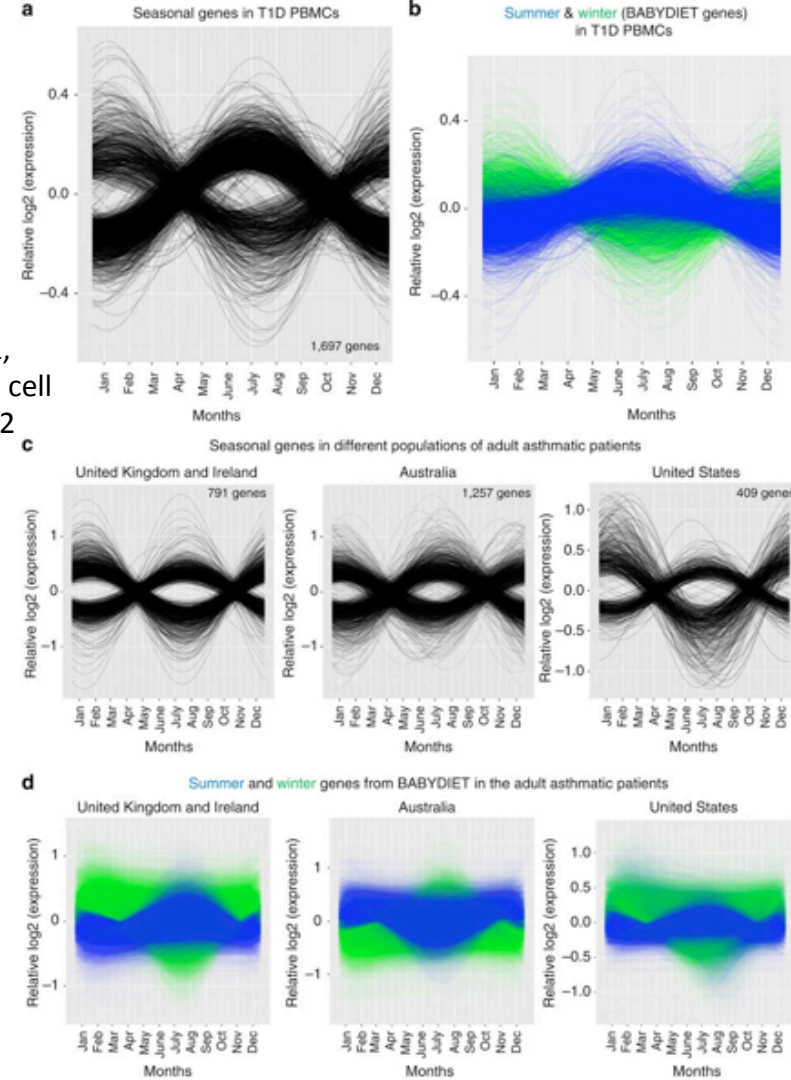
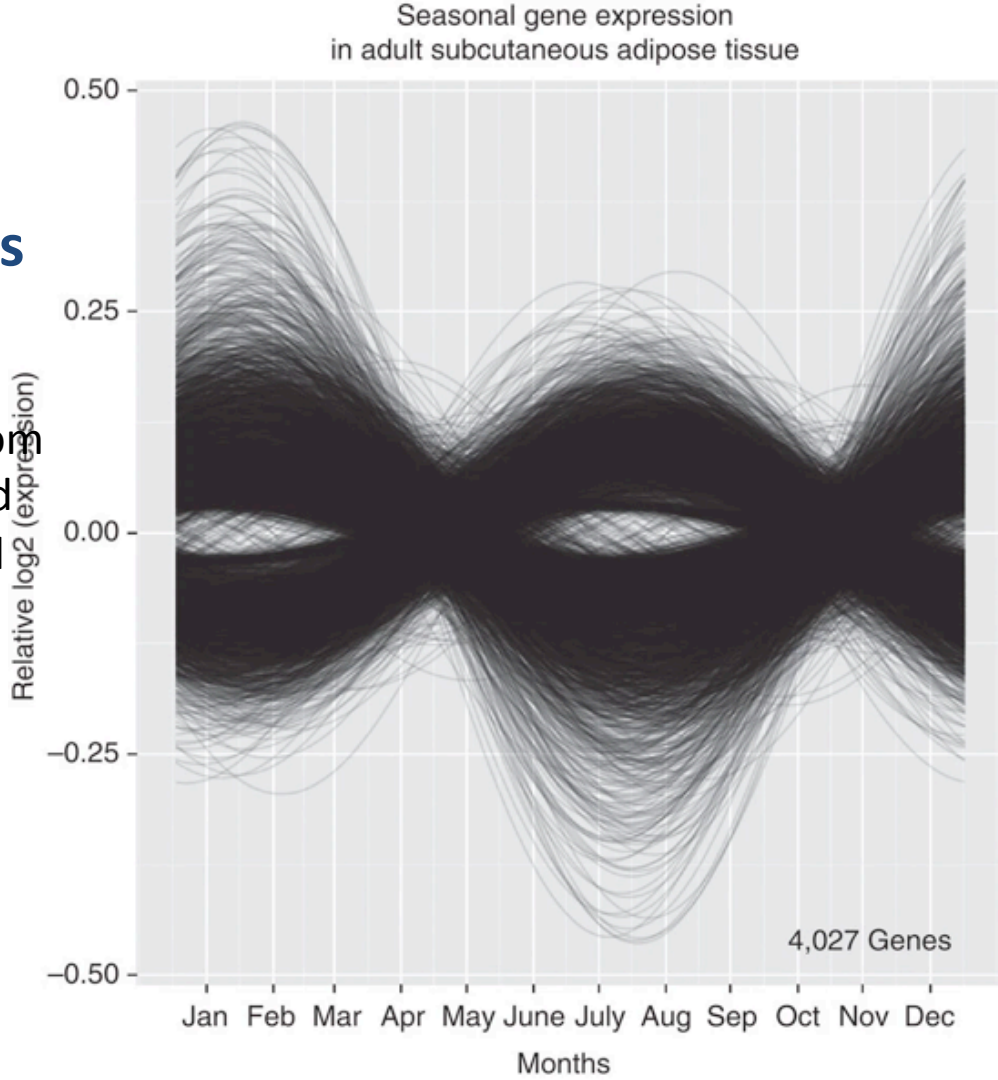




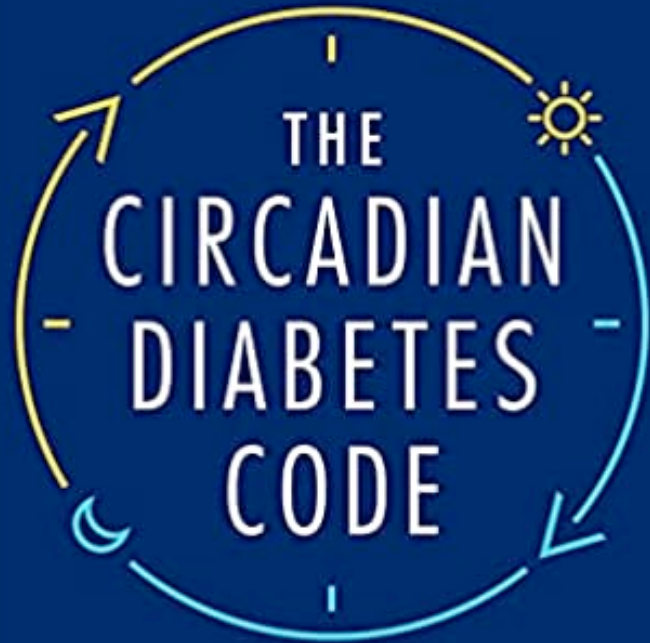
Figure 6: Seasonal gene expression in subcutaneous adipose tissue.

## ... two distinct anti-phasic profiles

In a collection of 856 female adult donors from the United Kingdom, 4,027 genes were found to be seasonal in adipose tissue. As observed in PBMCs, two distinct anti-phasic profiles were present.



Discover the *Right Time* to Eat,  
Sleep, and Exercise to Prevent and Reverse  
Prediabetes and Diabetes



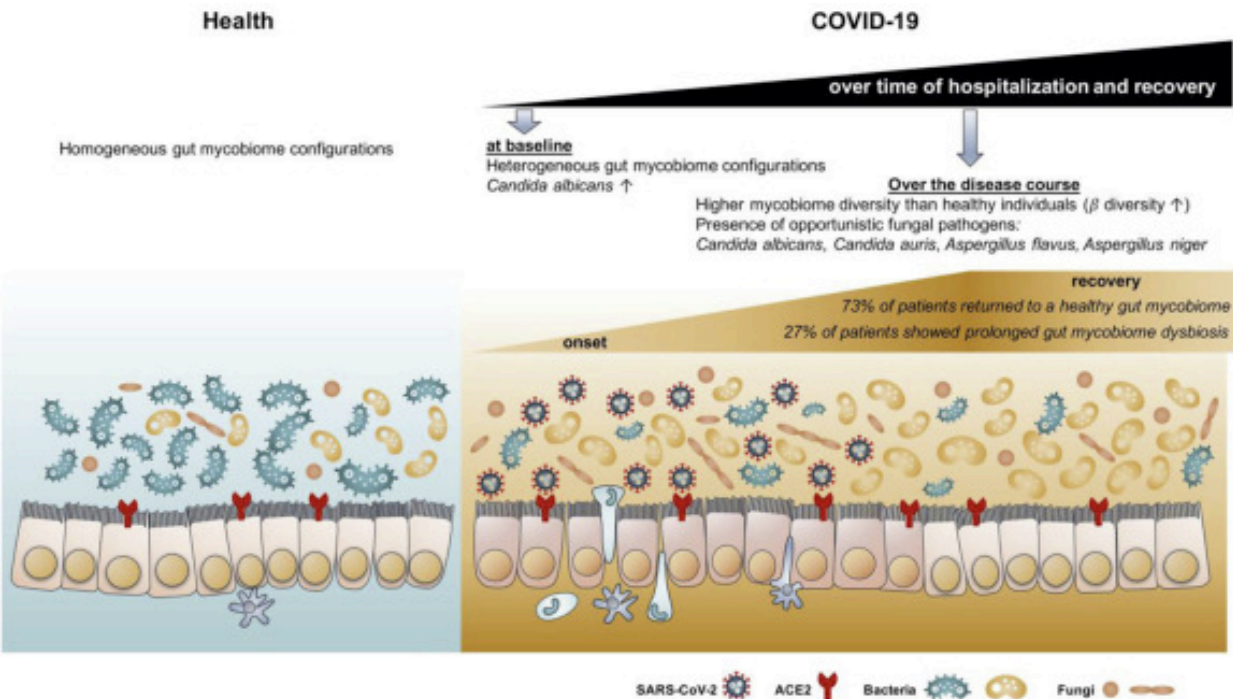
**SATCHIN PANDA, PhD**  
*Author of THE CIRCADIAN CODE*

The Circadian Diabetes Code: Discover the  
Right Time to Eat, Sleep, and Exercise to  
Prevent and Reverse Prediabetes and Diabetes  
Hardcover – November 9, 2021

<https://www.amazon.com/Circadian-Diabetes-Code-Discover-Prediabetes/dp/0593231872>

# Alterations in Fecal Fungal Microbiome of Patients With COVID-19 During Time of Hospitalization until Discharge

*Patients with COVID-19 had significant alterations in their fecal mycobiomes compared with controls, characterized by enrichment of *Candida albicans* and a highly heterogeneous mycobiome configuration, at time of hospitalization.*



The diversity of the fecal mycobiome of the last sample collected from patients with COVID-19 was 2.5-fold higher than that of controls ( $P < .05$ ). Samples collected at all timepoints from patients with COVID-19 had increased proportions of opportunistic fungal pathogens, *Candida albicans*, *Candida auris*, and *Aspergillus flavus* compared with controls. Two respiratory-associated fungal pathogens, *A. flavus* and *Aspergillus niger*, were detected in fecal samples from a subset of patients with COVID-19, even after clearance of SARS-CoV-2 from nasopharyngeal samples and resolution of respiratory symptoms.


# Non-Pharmacological Interventions:

An Essential Answer to Current Demographic, Health, and Environmental Transitions

Gregory Ninot

## Non-Pharmacological Interventions

An Essential Answer to Current Demographic, Health, and Environmental Transitions

 Springer

Gregory Ninot

### Non-Pharmacological Interventions

An Essential Answer to Current Demographic, Health, and Environmental Transitions

Non-pharmacological interventions (NPIs) have become essential solutions for better living, preventing disease, and self-care, in addition to biomedical treatments, and for increasing longevity without loss of quality of life. Over the past 20 years, these practices have gone from general diet and hygiene advice to targeted and personalized solutions for prevention, care optimization, and curative treatments. Selected empirically for centuries or recently with the help of technological innovations and epigenetic, interventional, and medico-economic studies, their development is growing and diversifying around the world. Today an NPI ecosystem is made up of a myriad of public and private actors. As interest in NPIs grows, so do questions about safety, effectiveness, standardization, ethical practice, and surveillance. In this book, the author answers these questions with a scientific approach, because evidence-based science, evidence-based practice, clinical research, and data monitoring have revolutionized this field.

Topics explored among the chapters include:

- Defining Non-Pharmacological Interventions
- The Benefits and Dangers of Non-Pharmacological Interventions
- Motives and Facilitators of Non-Pharmacological Intervention Use
- The Market for Non-Pharmacological Interventions
- Evaluation of Non-Pharmacological Interventions
- The Future of Non-Pharmacological Interventions

*Non-Pharmacological Interventions: An Essential Answer to Current Demographic, Health, and Environmental Transitions* is a must-have resource for clinicians and other health professionals, researchers, students, health insurers, policy-makers, caregivers, and entrepreneurs in the health and wellness space, as well as any users who wish to inform themselves about NPIs.

ISBN 978-3-030-60970-2



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Professor Grégory Ninot

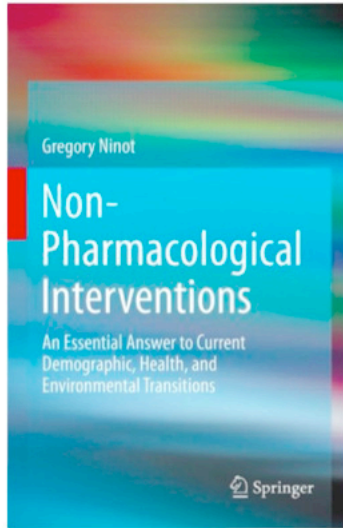
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# Non-Pharmacological Interventions:

An Essential Answer to Current Demographic, Health, and Environmental Transitions



Gregory Ninot

## Non-Pharmacological Interventions

An Essential Answer to Current Demographic, Health, and Environmental Transitions

- Clears the confusion between non-pharmacological interventions (NPIs) and alternative medicines
- Is based on science vs. anecdotal evidence/personal experiences or biases due to conflict of interest
- Offers an understanding of NPIs in the context of a global viewpoint
- Sorts through the ambiguities of NPIs by focusing on using the same language for NPIs
- Chooses the best combination of NPIs following specific key elements and guidance

Non-pharmacological interventions (NPIs) have become essential solutions for better living, preventing disease, and self-care. In addition to biomedical treatments, and for increasing longevity without loss of quality of life. Over the past 20 years, these practices have gone from general diet and hygiene advice to targeted and personalized solutions for prevention, care optimization, and curative treatments. Selected empirically for centuries or recently with the help of technological innovations and epigenetic, interventional, and medico-economic studies, their development is growing and diversifying around the world. Today an NPI ecosystem is made up of a myriad of public and private actors. As interest in NPIs grows, so do questions about safety, effectiveness, standardization, ethical practice, and surveillance. In this book, the author answers these questions with a scientific approach, because evidence-based science, evidence-based practice, clinical research, and data monitoring have revolutionized this field.

1st ed. 2021, XXIII, 294 p. 29 illus., 24 illus. in color.

### Printed book

Hardcover

90,99 € | £79.99 | \$111.99

<sup>[1]</sup>97,36 € (D) | 100,09 € (A) | CHF

107,50

### eBook

74,89 € | £63.99 | \$84.99

<sup>[2]</sup>74,89 € (D) | 74,89 € (A) | CHF

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An Essential Answer to Current Demographic, Health, and Environmental Transitions

## Acknowledgments

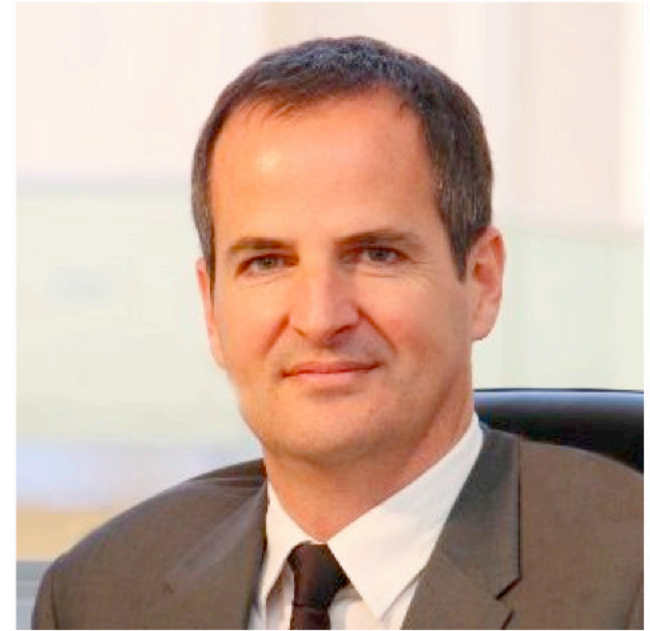
*“... This book shows my gratitude to the French university system, and more particularly to that of Montpellier, which hosts the oldest medical school in Europe.”*

This book is first and foremost a mark of gratitude to all the patients and caregivers who have shown me the path to NPIs.

I also thank colleagues, collaborators, students, and anonymous reviewers who shared this quest for a rigorous scientific approach in a field so sensitive to bias and beliefs.

This book pays homage to my mentors and sources of inspiration: Christophe André, Jean Bilard, Jean Bourbeau, Gérard Bourrel, Jean Bousquet, Jacques Bringer, Jacques Desplan, Bruno Falissard, John Ioannidis, Jacques Kopferschmitt, Julien Nizard, François Paille, Lynda Powell, Christian Préfaut, Henri Pujol, Lise Rochaix, Pierre Senesse, Daniel Serin, and Daniel Schwartz.

This book shows my gratitude to the French university system, and more particularly to that of Montpellier, which hosts the oldest medical school in Europe.



Professor Grégory Ninot

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by Gregory Ninot (Author)



Mary Ann Liebert, Inc. publishers

[Med Acupunct.](#) 2015 Aug 1; 27(4): 253–266.

doi: [10.1089/acu.2015.1106](https://doi.org/10.1089/acu.2015.1106)

PMCID: PMC4555646

PMID: [26392838](https://pubmed.ncbi.nlm.nih.gov/26392838/)

## Long-Lasting Reduction of Blood Pressure by Electroacupuncture in Patients with Hypertension: Randomized Controlled Trial

[Peng Li](#), MD,<sup>1</sup> [Stephanie C. Tjen-A-Looj](#), PhD,<sup>✉1</sup> [Ling Cheng](#), MD,<sup>2</sup> [Dongmei Liu](#), MD,<sup>1</sup> [Jeannette Painovich](#), DAOM,<sup>1</sup> [Sivarama Vinjamury](#), MAOM,<sup>3</sup> and [John C. Longhurst](#), MD, PhD<sup>1</sup>

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### Abstract

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**Background:** Acupuncture at specific acupoints has experimentally been found to reduce chronically elevated blood pressure.

**Objective:** To examine effectiveness of electroacupuncture (EA) at select acupoints to reduce systolic blood pressure (SBP) and diastolic blood pressures (DBP) in hypertensive patients.

**Design:** Two-arm parallel study.

**Patients:** Sixty-five hypertensive patients not receiving medication were assigned randomly to one of the two acupuncture intervention (33 versus 32 patients).

**Intervention:** Patients were assessed with 24-hour ambulatory blood pressure monitoring. They were treated with 30-minutes of EA at PC 5-6+ST 36-37 or LI 6-7+GB 37-39 once weekly for 8 weeks. Four acupuncturists provided single-blinded treatment.



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Peng Li, MD,<sup>1</sup> Stephanie C. Tjen-A-Looj, PhD,<sup>2</sup> Ling Cheng, MD,<sup>2</sup> Dongmei Liu, MD,<sup>1</sup> Jeannette Painovich, DAOM,<sup>1</sup> Sivarama Vinjamury, MAOM,<sup>3</sup> and John C. Longhurst, MD, PhD<sup>1</sup>

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**Results:** After 8 weeks, 33 patients treated with EA at PC 5-6+ST 36-37 had decreased peak and average SBP and DBP, compared with 32 patients treated with EA at LI 6-7+GB 37-39 control acupoints. Changes in blood pressures significantly differed between the two patient groups. In 14 patients, a long-lasting blood pressure-lowering acupuncture effect was observed for an additional 4 weeks of EA at PC 5-6+ST 36-37. After treatment, the plasma concentration of norepinephrine, which was initially elevated, was decreased by 41%; likewise, renin was decreased by 67% and aldosterone by 22%.

**Conclusions:** EA at select acupoints reduces blood pressure. Sympathetic and renin-aldosterone systems were likely related to the long-lasting EA actions.

**Key Words:** : Neiguan-Jianshi and Zusanli-Shangjuxu, Pianli-Wenliu and Guanming-Xuanzhong, Point Specificity

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4555646/>





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PMCID: PMC4555646

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## Long-Lasting Reduction of Blood Pressure by Electroacupuncture in Patients with Hypertension: Randomized Controlled Trial

### Electroacupuncture

Disposable, sterile stainless steel acupuncture needles were inserted bilaterally into one of two sets of acupoints, including Neiguan, Jianshi (pericardial meridian, PC 6 and 5 points, on the palmar side of both arms, approximately 4 and 6 cm [2 and 3 cun] above the crease of the wrist respectively, between the tendons of the long palmar muscle and radial flexor muscle of the wrist, overlying the median nerve) and Zusanli, Shangjuxi (stomach meridian, ST 36 and 37, on the anterolateral side of the leg, approximately 6 and 12 cm [3 and 6 cun] below the knee and approximately 2 cm [1 cun] lateral to the anterior crest of the tibia, overlying the deep peroneal nerve) or alternatively Guangming, Xuanzhong (gallbladder meridian, GB 37 and 39, positioned approximately 10 and 6 cm [5 and 3 cun] above the lateral ankle, respectively, overlying the superficial peroneal nerve) and Pianli and Wenliu (large intestine meridian, LI 6 and 7, located approximately 6 and 10 cm [3 and 5 cun] above the wrist overlying the superficial radial nerve).<sup>38–40</sup> One cun was approximately 2 cm.<sup>41</sup> For safety, pairs of ipsilateral acupoints on each side were stimulated during EA so that current flowed between the two adjacent electrodes rather than through the body to the contralateral extremity.<sup>42</sup> These two sets of acupoints were stimulated bilaterally (eight needles in total for each patient) to evaluate the effect of EA and specificity of acupoints with respect to lowering BP. Needles were inserted and stimulated for 30 minutes<sup>20,21,42</sup> by using currents that were just below motor threshold (1–2 mA and 2–5 Hz). Patients typically described a paresthesia (called De Qi in TCM) during stimulation of acupoints.<sup>42</sup>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4555646/>



Review Article

# Defining Meridians: A Modern Basis of Understanding

John C. Longhurst  

Samueli Center for Integrative Medicine, Departments of Medicine, Physiology and Biophysics,  
Pharmacology and Biomedical Engineering, Schools of Medicine and Engineering, University of California,  
Irvine, USA

Received 29 January 2010, Accepted 30 March 2010, Available online 15 June 2010.

## Abstract

Acupuncture, one of the primary methods of treatment in traditional Oriental medicine, is based on a system of meridians. Along the meridians lie acupuncture points or acupoints, which are stimulated by needling, pressure or heat to resolve a clinical problem. A number of methods have been used to identify meridians and to explain them anatomically. Thus, tendinomuscular structures, primo-vessels (Bonghan ducts), regions of increased temperature and low skin resistance have been suggested to represent meridians or as methods to identify them. However, none of these methods have met the criteria for a meridian, an entity that, when stimulated by acupuncture can result in clinical improvement. More recently, modern physiologists have put forward the “neural hypothesis” stating that the clinical influence of acupuncture is transmitted primarily through stimulation of sensory nerves that provide signals to the brain, which processes this information and then causes clinical changes associated with treatment. Although additional research is warranted to investigate the role of some of the structures identified, it seems clear that the peripheral and central nervous system can now be considered to be the most rational basis for defining meridians. The meridian maps and associated acupoints located along them are best viewed as road maps that can guide practitioners towards applying acupuncture to achieve optimal clinical results.

# Long-Range Coherence and Energy Storage in Biological Systems

H. FRÖHLICH

*Department of Theoretical Physics, University of Liverpool,  
Liverpool, England*

## Abstracts

Biological systems are expected to have a branch of longitudinal electric modes in a frequency region between  $10^{11}$  and  $10^{12}$   $\text{sec}^{-1}$ . They are based on the dipolar properties of cell membranes; of certain bonds recurring in giant molecules (such as H bonds) and possibly on pockets of non-localized electrons. In Section 2 it is shown quite generally that if energy is supplied above a certain mean rate to such a branch, then a steady state will be reached in which a single mode of this branch is very strongly excited. The supplied energy is thus not completely thermalized but stored in a highly ordered fashion. This order expresses itself in long-range phase correlations; the phenomenon has considerable similarity with the low-temperature condensation of a Bose gas. General consequences and proposals of experiments are discussed in Section 3.

## 1. General

The present paper arises from development and clarification of ideas presented by myself [1] in the opening talk of the recent Versailles conference on Theoretical Physics and Biology. In the past decades biology has been highly successful in the correlation of biological properties with the structure and properties of relevant molecules. This stage of development might be compared with the correlation of the physical and chemical properties of materials with the structure and properties of the atoms and molecules of which the material is composed. These properties modified by interaction with their neighbours account for many features of the substance. Some of the most interesting properties in the physics of materials, however, can be understood in terms of the collective (cooperative) behaviour of a great number of these constituents only, usually associated with some kind of long-range order. Most frequently this order is described in terms of a definite spatial pattern. A much more subtle type of long-range order is found in superfluid helium, and in superconductors. This order is connected with the concept of long-range phase correlation (coherence). Superfluids (and superconductors) undergo at very low temperatures a phase transition. The simplest model available for this transition is the Einstein condensation of a Bose gas in which—with decreasing temperature—more and more particles “condense” into a single quantum state.

# Life began and operates because of dipoles

The original reason for considering longitudinal electric modes lay in the extraordinary dielectric properties of biological systems. Furthermore living systems though relatively stable are in some respects far from thermal equilibrium; also they may be expected to exhibit some order of a non-trivial nature. From a very general point of view of physics, three observations may thus be made about living systems.

[1]. They are relatively stable yet in some respects far from thermal equilibrium.

[2]. They probably exhibit some kind of order typical for them yet not of an obvious spatial nature.

[3]. Cells and many of the relevant giant molecules have quite extraordinary dielectric properties.

In connection with (3) it should be remembered that cells have a membrane of about  $10^{-6}$  cm thickness which maintains a very strong dipolar layer. In the (from the point of view of physics) complicated shape of a cell surface, local vibrations of a part of the cell membrane are feasible such that the positive and the negative part of a particular section of the membrane vibrate against each other leading to an oscillating electric dipole. Its frequency is of the order  $10^{11}$ – $10^{12}$   $\text{sec}^{-1}$  if a sound velocity in the layer of order  $10^5$ – $10^6$  cm/sec perpendicular to the surface is assumed.

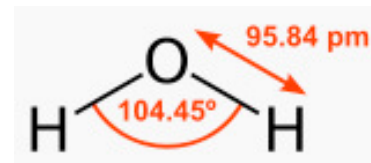
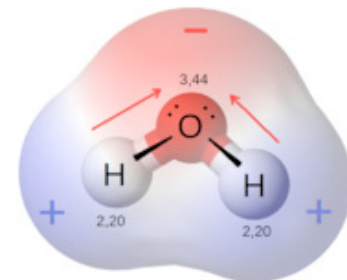
## Long-Range Coherence and Energy Storage in Biological Systems

H. FRÖHLICH

*Department of Theoretical Physics, University of Liverpool,  
Liverpool, England*

### Abstracts

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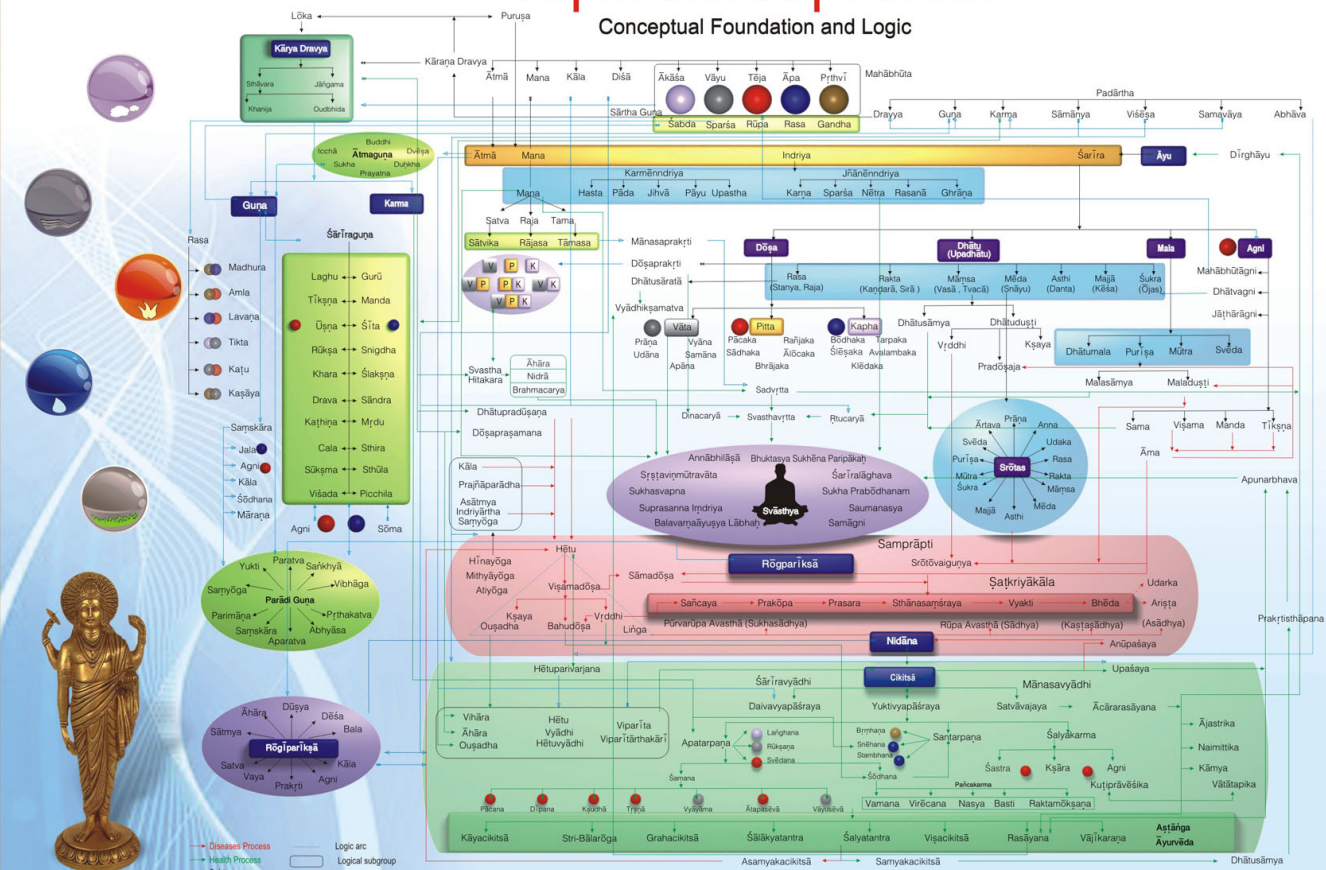
Omnia metire quaecumque licet et immensa ad  
mensuram tempestive redige

*Measure what is measurable and render measurable in time what as yet is not*



# Systems Āyurvēda®

## Conceptual Foundation and Logic



Created by  
Girish Tilt\*,  
G.G. Gangadharam†,  
Ashok D.B. Vaidya‡ &  
Bhushan Patwardhan§

### About this Poster

The "Systems Āyurvēda" graphic notation describes schemes of Āyurvēda knowledge base. Comprehensive view of concepts and logic is possible through this approach. In addition to logical, sequential linear flow, Āyurvēda also depicts multi-dimensional, one-to-many and many-to-many cause effect relations. We hope the forthcoming poster series on "Systems Āyurvēda" will illustrate generalized and practical applications of logic and vast knowledge base of Āyurvēda.

"Systems Āyurvēda" is an entity relationship notation based on Systems Biology Graphical Notation (SBGN) concept. The first poster broadly introduces logic flow, forward logic, backward logic, entity relations and their applications in health and disease. The foundations and logic of Āyurvēda is mainly based on Śārīra and Vāyūśāstra principles. According to this, every material (Prakṛiti) is composed of five primordial elements (Mahābhūta). The manifested parts of matter are composed of the living and non-living elements, both could be assessed by similar logic and method. Main aim of Āyurvēda is to promote health, longevity and alleviate disease. This is achieved through harmonization of Dīā, Dhīā, Mānā and Agnī. Appropriate contact including proper hygiene and diet leads to health. Effects of Dīā or Agnī, drug use or causative factor depends on properties and activities relative to its source. The processing (Sāmpṛāpti) enables augmentation of health-promoting properties and reducing toxicity of medicines. The disease process initiates from causative factors (Mūla) and are distributed to organs (e.g. Dīā). The Sāmpṛāpti is process through several steps (Sāpṛāpti) and manifests into disease. The holistic approach of Āyurvēda management aims at establishing health through multilateral treatment modalities including counselling, avoiding causes, Pañcamaṅga, medicines, diet and surgical procedures. Every aspect of Systems Āyurvēda logic is relevant to other components and has specific role in management of health and/or curing disease. The "holistic to part" nature of Āyurvēda philosophy is important to better understanding of comprehensive account. The preliminary consisting of near 200 variables describing logical flow and concepts of Āyurvēda have been presented using SBGN approach for processes, entity relationships and activities flow.

\*Naveen N. L. et al. Systems Biology Graphical Notation. Nature Biotechnology 2009, 27, 735 - 741.  
†Dr. Girish Tilt, acknowledge suggestions and inputs from Dr. Vaidya Gangadhar, Dr. Venkatesh Dr. Shashank and Dr. Girish Saravali Dr. Prasad Dhanraj and Dr. Suresh Babu.

### Legends:

- Śārīra
- Guṇa
- Śvāsthya
- Sāmpṛāpti
- Śāṅkriyākāla
- Cikitsā
- Āstīṅga Āyurvēda

§ Center for Development of Advanced Computing, Pune  
¶ Foundation for Rehabilitation of Local Health Traditions, Bangalore  
‡ Kakuṭṭha Health Society - Medical Research Centre, Mumbai  
§ Medicines/College of Health Sciences, University of Pune

# N=1 to N=0 or ...

## From Structures to just Processes

Processes: infra < sub < hypo < ultra < super < hyper

***Sapta dhatus, Srotas, Deha paramanu*** (देह परमाणु) ...

*strict and rigid visualisation of anatomical, histological, cellular and sub-cellular divisions and compartments leads to theories which are both limiting and also prone to premature errors!*

And the Human Body is but a 'Metaorganism' –  
made up of a collection of cells (ours and the associated microbes) and  
cells (mitochondria) within cells.



# N=1 to N=0 or ...

## From Structures to just Processes

**Processes: infra < sub < hypo < ultra < super < hyper**

*N=0 ... the ideal state that Ayurveda wishes all of us to be in ...  
when there are no more entities but just a collection of 'hyperprocesses'  
and relationships in the hyperprocesses being mediate by three processes:*

- \*vata\*, \*pitta\* and \*kapha\**
- and respecting the eternal rule of three \*gunas\*!!*

And the Human Body is but a 'Metaorganism' –  
made up of a collection of cells (ours and the associated microbes) and  
cells (mitochondria) within cells.

# How is Ayurvedic Knowledge possible?

But not to forget in all this the simple question:

" How is Ayurvedic Knowledge possible"

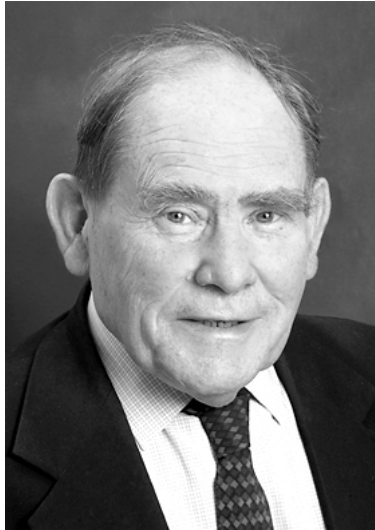
and the answer ...

"The origins of Ayurveda are fascinating in their simplicity, and they are proof that the concepts of biology and the principles and laws involved in the maintenance of biological complexity in systems can be derived from the most routine and everyday experiences".

**Reductionist / reductive analyses of any kind only adds details, most times or always ... and only corroborating the need to study the system as a whole, and little else.**

**Science for Ayurveda or Ayurveda for Science"**

# COHERENCE, PHARMACOGENOMICS AND PHARMACOELECTRODYNAMICS



**Sydney Brenner**

**Born:**

13 January 1927, Germiston, South Africa

**Prize motivation:**

"for their discoveries concerning genetic regulation of organ development and **programmed cell death**"

AND DOCTORS

## Teaching Biologists ~~Another~~ Language!

The last line of the last paragraph from Sydney's autobiography is fascinating:

[http://www.nobelprize.org/nobel\\_prizes/medicine/laureates/2002/brenner-bio.html](http://www.nobelprize.org/nobel_prizes/medicine/laureates/2002/brenner-bio.html)

*I am still, at the age of 76, excited by scientific research and the prospect of what can be done in biology. Science is something one is tied to for life and one should never retire from anything until one has secured one's next job.*

**The endless quest for knowledge will continue as long as humans exist.**



I copy below, from the Editorial:

*"In one way, you could say all the genetic and molecular biological work of the last 60 years could be considered a long interlude...We have come full circle—back to the problems left behind unsolved. How does a wounded organism regenerate exactly the same structure it had before? How does the egg form the organism? **In the next 25 years, we are going to have to teach biologists another language...I don't know what it's called yet; nobody knows...**" (Sydney Brenner)*

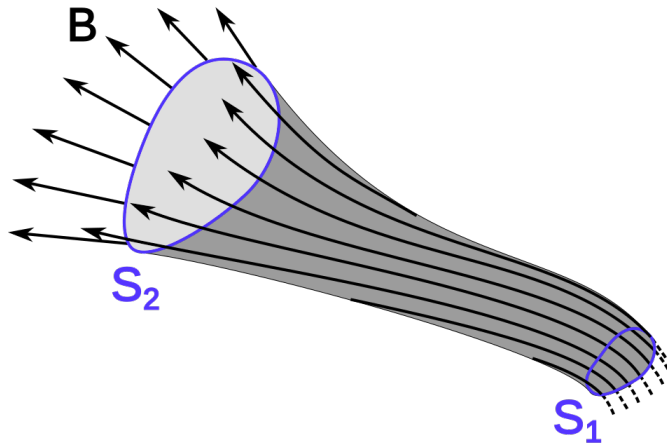
**Ayurveda is one exemplary introduction to and what is required for Teaching Biologists Another Language!**

# The Science of Meridians

## The theoretical background of meridians, bioelectrical energy and nadis

Fröhlich's hypothesis of coherence in biological systems

introduced by Herbert Fröhlich in the late 1960s



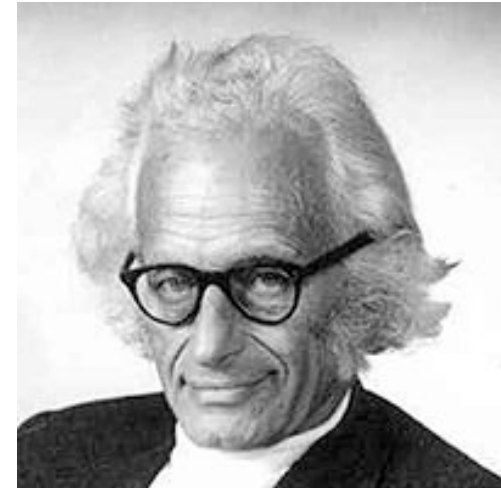
Fröhlich proposed a theory of coherent excitations in biological systems known as Fröhlich coherence.

A system that attains this state of coherence is known as a Fröhlich condensate.

### Herbert Fröhlich FRS

(9 December 1905 – 23 January 1991)

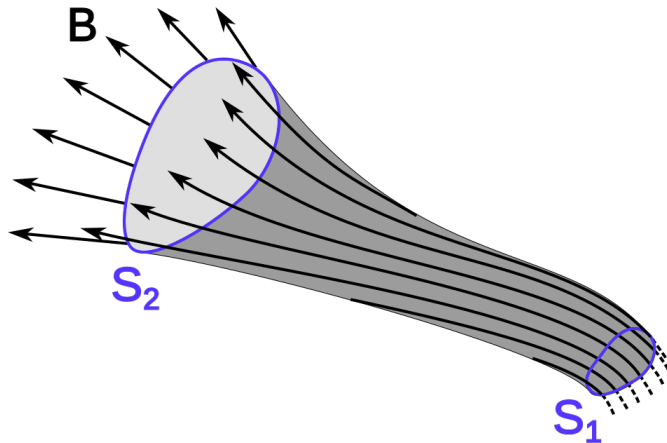
a German-born British physicist



# The theoretical background of bioelectrical energy & the science of meridians

Fröhlich's hypothesis of coherence in biological systems

introduced by Herbert Fröhlich in the late 1960s



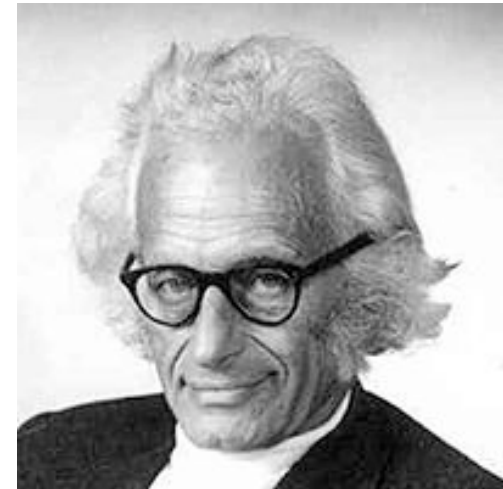
Herbert Fröhlich and F.  
Kremer **Coherent Excitations  
in Biological Systems**  
(Springer-Verlag, 1983) ISBN  
978-3-642-69186-7

Herbert Fröhlich, editor  
**Biological Coherence and  
Response to External Stimuli**  
(Springer, 1988) ISBN  
978-3-642-73309-3

**Herbert Fröhlich FRS**

(9 December 1905 – 23 January 1991)

a German-born British physicist



# "Ayurveda: The Meaning of Life—Awareness, Environment, and Health"

Review Article

## Advent of a Link between Ayurveda and Modern Health Science: The Proceedings of the First International Congress on Ayurveda, "Ayurveda: The Meaning of Life—Awareness, Environment, and Health" March 21-22, 2009, Milan, Italy

Antonio Morandi,<sup>1,2</sup> Carmen Tosto,<sup>1</sup> Guido Sartori,<sup>1,2,3</sup> and Paolo Roberti di Sarsina<sup>4</sup>

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<sup>2</sup> SSIMA, Italian Scientific Society for Ayurvedic Medicine, C.so Sempione 63, 20149 Milan, Italy

<sup>3</sup> Atah, Italian Association of Ayurvedic Patients, Via C. Boldrini 14, 40121 Bologna, Italy

<sup>4</sup> Department of Sociology and Social Research, Observatory and Methods for Health, University of Milano-Bicocca, Piazza dell'Ateneo Nuovo 1, 20126 Milan, Italy

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The First International Congress on Ayurveda was held in Milan, Italy in March 2009 and it has been the first scientific event of this kind in western world. This groundbreaking international congress was devoted to human being as the product of interactions between Awareness, Environment and Health, subjects that the West tends to consider separate and independent, but that are believed deeply connected in Ayurveda, whose interdependence defines "The Meaning of Life". The Congress established a bridge between Indian and western philosophy, scientific and biomedical thinking in order to expand knowledge and healthcare. Main attention and address of the invited speakers was on the concept of "relationships" that, connecting living beings with environment, shape Nature itself. This concept is central in Ayurveda but is also common to other western scientific disciplines such as quantum physics and epigenetics that, in the four Sessions of the Congress, were represented by eminent experts. The importance of this event was underlined by the attendance of more than 400 participants and by noteworthy institutional endorsements, that added a significant political dimension of high social impact due to the topical period for CAM acceptance and integration in Europe.



Professor B. D. Josephson, 1973 Nobel Laureate in Physics (Department of Physics, University of Cambridge, UK), in his inaugural lecture on "Eastern Philosophy and Western Science," considered the problems with "objective reality" that is central to quantum theory, since ...

... reality is too complex to be reduced to a formula in general.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2958631/>



# The Prague Platform's Prague Global Health Dialogues

**Empowering Individuals to improve individual health  
&  
Catalysing and Growing a Citizens Global Health Policy Pact  
for Health & Wellbeing Systems Globally**

IT IS A TIME FOR A CHANGE  
HEALTH KNOWS NO BOUNDARIES

<https://www.whc2021prague.com/>

Looking forward with great excitement to shaping further “The Prague Platform” and growing this bolder and stronger for the future of all of humanity.

The one model that comes to mind to extend the Prague Platform: <https://www.milanurbanfoodpolicypact.org/>

**Perhaps the next step for The Prague Platform could well be along the lines of a  
“Global Dialogue - Empowering Individuals to improve health and health systems  
globally”**

The model being offered by the Milan Urban Food Policy Pact is their “Global Dialogue - Empowering Cities and Local Governments to improve food systems globally”

<https://www.milanurbanfoodpolicypact.org/global-dialogue-empowering-cities-and-local-governments-to-improve-food-systems-globally/>

# Deep Science of Deep Health

*Sense and Nonsense:*

*A Deep Problem in The Age of Deep Schemes, Deep Flaws and Deep Fakes*

This report has been written at the request of **the Panel for the Future of Science and Technology (STOA)** and managed by **the Scientific Foresight Unit**, within the **Directorate-General for Parliamentary Research Services (EPRS)** of the Secretariat of the European Parliament.

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Mariëtte van Huijstee PhD

<https://www.rathenau.nl/en/digital-governance/tackling-deepfakes-european-policy>



## Latest publications

### A framework for foresight intelligence - Part 1: Horizon scanning tailored to STOA's needs

Study - 25-11-2021

The first part of the STOA study 'A framework for technology foresight intelligence', this report includes a set of five horizon-scanning reports or 'radars', built with the resources of Futures Platform and covering several areas, including the world after Covid-19, disruptive futures, the Green Deal, food, and geoengineering. Horizon scanning is a discipline that could be harnessed to inform the future activities of the Panel for the Future of Science and Technology (STOA) at both strategic and ...

### What if ecolabels could nudge us to choose greener food?

At a Glance - 11-11-2021

The way most food is produced is harming the planet. A profound change is needed, involving all agri-food actors. As consumers, we sit at the end of the agri-food chain. Our daily dietary choices implicitly support certain food systems, production methods and types of food. What could help us make better choices?

### European Health Emergency Preparedness and Response Authority (HERA): Pre-legislative synthesis of national, regional and local positions on the European Commission's initiative

Briefing - 15-10-2021

This Briefing forms part of an EPRS series which offers a synthesis of the pre-legislative state-of-play and advance consultation on a range of key European Commission priorities during the latter's five-year term in office. It seeks to summarise the state of affairs in the relevant policy field, examine how existing policy is working on the ground, and identify best practice and ideas for the future on the part of governmental organisations at all levels of European system of multilevel governance ...

### What if new drug delivery methods revolutionised medicine?

At a Glance - 13-10-2021

Nanoparticles lie at the heart of a new method for delivering medicines inside the body – and they were crucial to the success of the Covid-19 mRNA vaccines. This new drug delivery method and others could transform the way we treat disease, potentially boosting the treatment of Alzheimer's, Parkinson's and HIV, among others. Insulin and Covid-19 vaccines might even become available as pills. Can the European Union stay on top of this trend? And what challenges lie ahead?

## What if new drug delivery methods revolutionised medicine?

At a Glance 13-10-2021

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Nanoparticles lie at the heart of a new method for delivering medicines inside the body – and they were crucial to the success of the Covid-19 mRNA vaccines. This new drug delivery method and others could transform the way we treat disease, potentially boosting the treatment of Alzheimer's, Parkinson's and HIV, among others. Insulin and Covid-19 vaccines might even become available as pills. Can the European Union stay on top of this trend? And what challenges lie ahead?

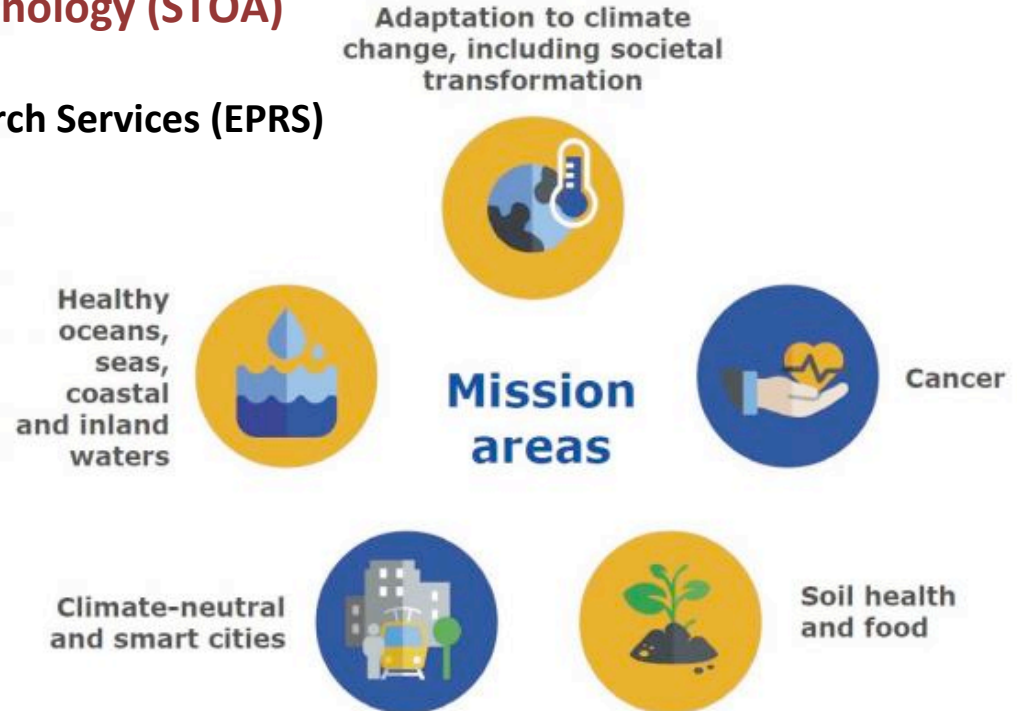
# Essential Interdisciplinary Research in the 3rd Millennium

## Panel for the Future of Science and Technology (STOA)

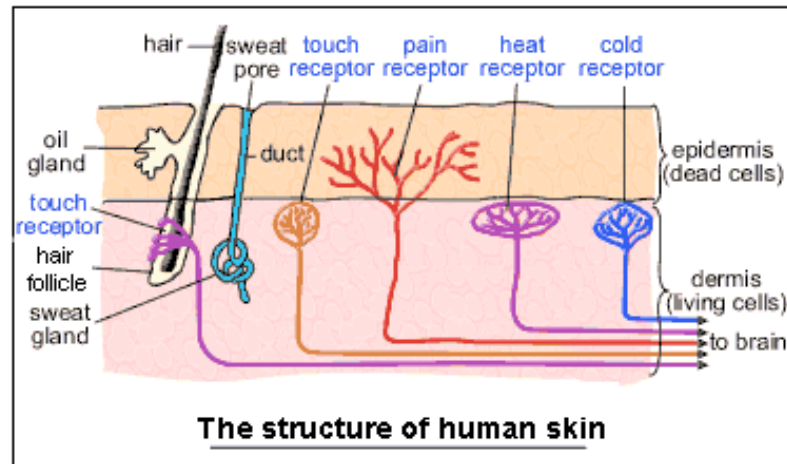
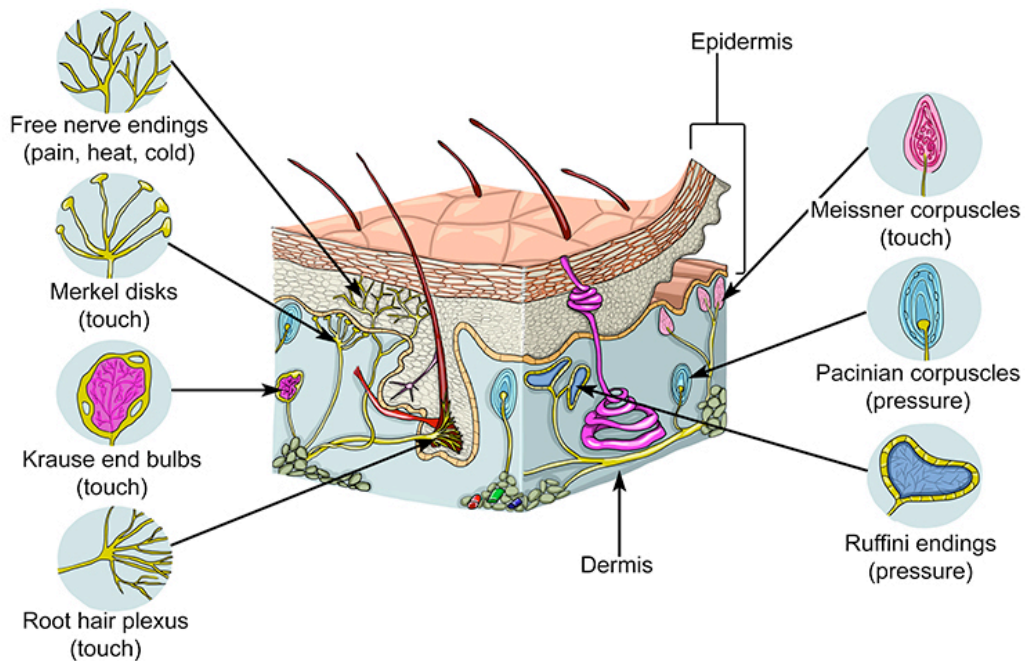
The Scientific Foresight Unit,

Directorate-General for Parliamentary Research Services (EPRS)

Secretariat of the European Parliament.



# Our skin is extremely sensitive to mechanical and thermal (temperature) stimulation, due to the number and variety of receptors located in skin layers.



# The Five Senses in Health & Healing: The Mechanisms

## The Nobel Prizes in Physiology or Medicine 2004 & 2021

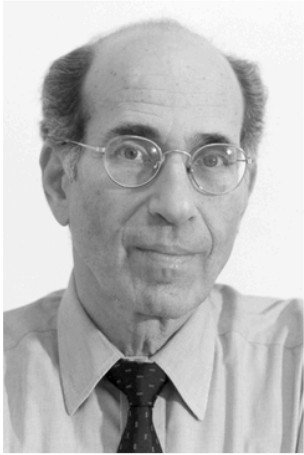


Photo from the Nobel Foundation archive.

Richard Axel

Prize share: 1/2



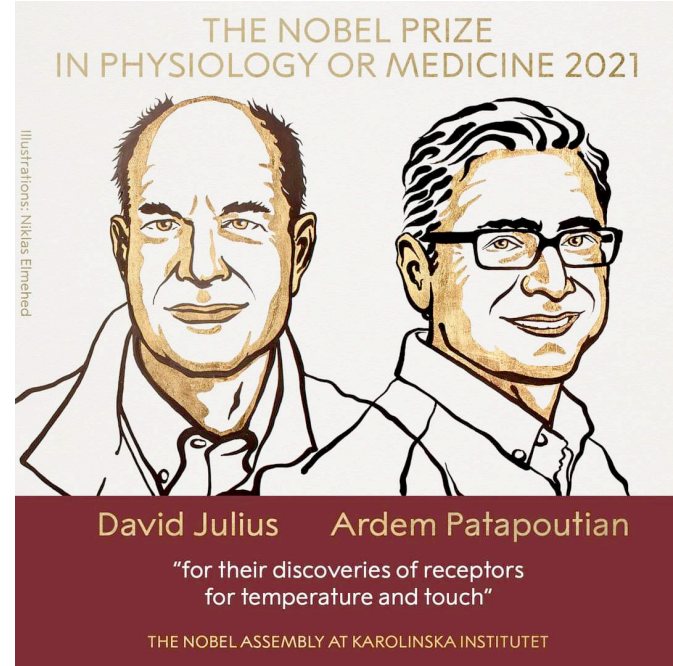
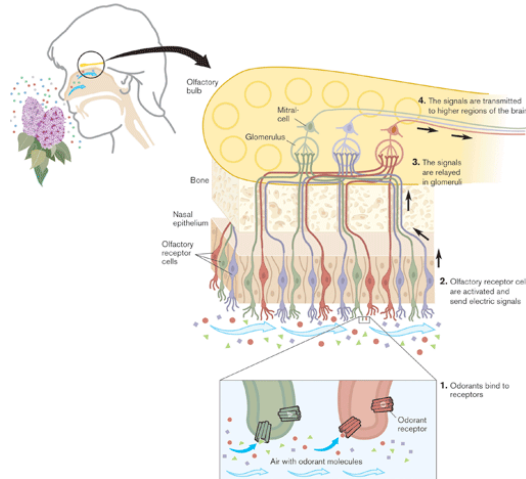
Photo from the Nobel Foundation archive.

Linda B. Buck

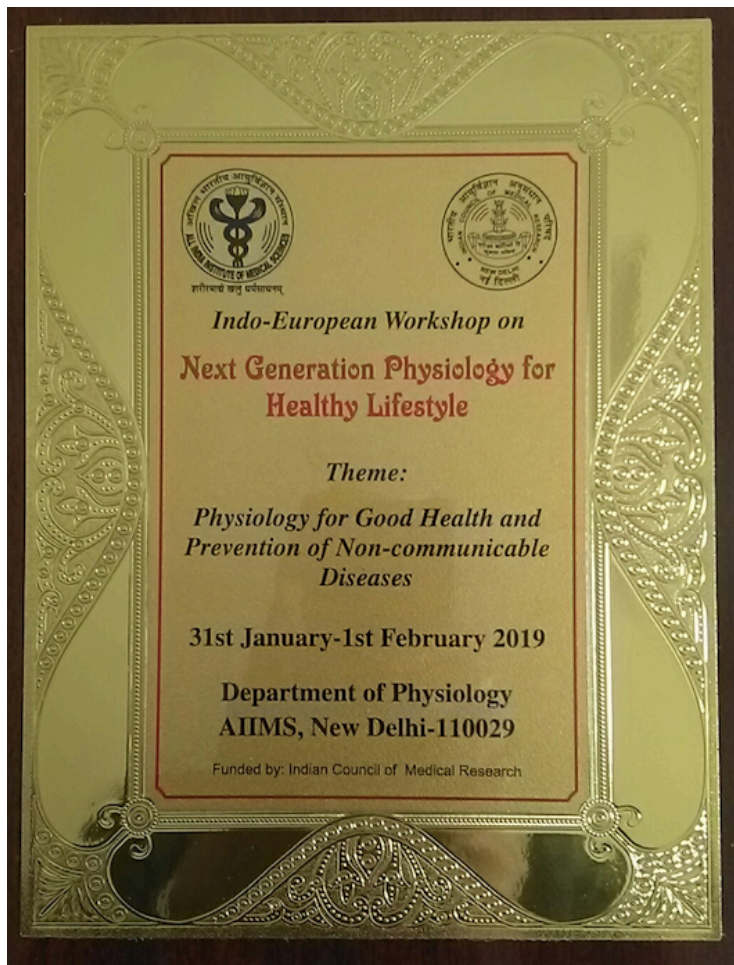
Prize share: 1/2

**"for their discoveries of odorant receptors and the organization of the olfactory system."**

Odorant Receptors and the Organization of the Olfactory System



# Deep Health: *Health For All, Anytime, Anywhere*



## Emergent Physiology Beyond Genomics:

Insights from India's Traditional Sciences



Medical University of Graz, Austria



<http://www.euroayurveda.eu>



French National Institute of Health and Medical Research

Physiologie de la Nutrition & Toxicologie,  
INSERM UMR 1231,  
Université de Bourgogne-Franche Comté (UBFC),  
Dijon, France

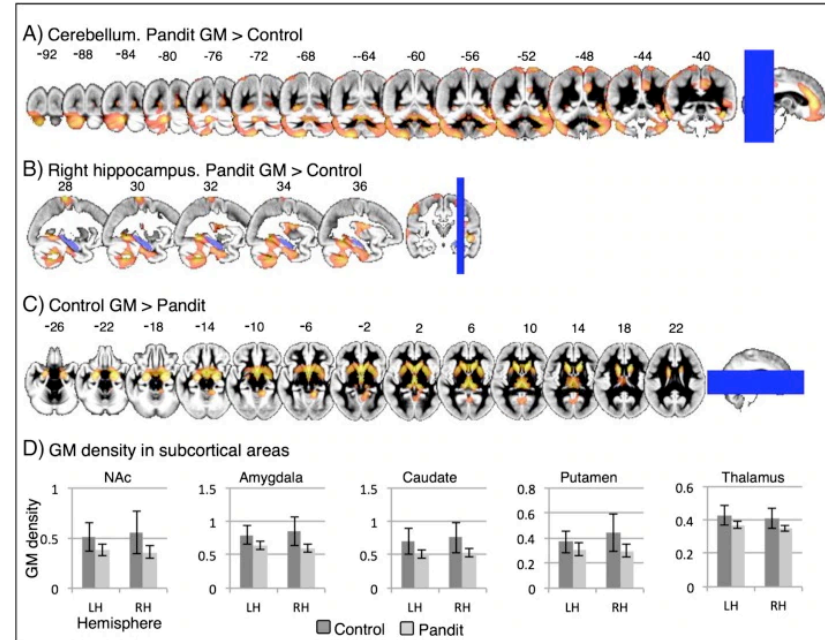


# The Sanskrit Effect

## India-Trento Partnership for Advanced Research (ITPAR)

Most interestingly for verbal memory was that the pandits' right hippocampus—a region of the brain that plays a vital role in both short and long-term memory—had more gray matter than controls across nearly 75 percent of this subcortical structure. Our brains have two hippocampi, one on the left and one on the right, and without them we cannot record any new information. Many memory functions are shared by the two hippocampi. The right is, however, more specialized for patterns, whether sound, spatial or visual, so the large gray matter increases we found in the pandits' right hippocampus made sense: accurate recitation requires highly precise sound pattern encoding and reproduction. The pandits also showed substantially thickening of right temporal cortex regions that are associated with speech prosody and voice identity.

Does the pandits' substantial increase in the gray matter of critical verbal memory organs mean they are less prone to devastating memory pathologies such as Alzheimer's? We don't know yet, though anecdotal reports from India's Ayurvedic doctors suggest this may be the case. If so, this raises the possibility that verbal memory “exercising” or training might help elderly people at risk of mild cognitive impairment retard or, even more radically, prevent its onset.



“MRI scans show that memorizing ancient mantras increases the size of brain regions associated with cognitive function”



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## India-Trento Programme for Advanced Research

### University of Trento academic staff

- Opportunities for outgoing staff mobility
- Bilateral Agreements
- Double Degree

### ITPAR

The ITPAR Programme (India-Trento Programme for Advanced Research) was born in the frame of the Agreement signed in July 2003 between the Department of Science and Technology (DST) of the Indian government, the Autonomous Province of Trento (through the Trentitino Cultural Institute, now Bruno Kessler Foundation) and the University of Trento.

ITPAR was recognized in the Cooperation Programme (POC) between India and Italy as one of the bilateral initiatives of major interest and thus benefits from the Foreign Affairs Ministry's fundings. The Programme involves the main universities and the most advanced research institutes in India.

ITPAR's main purpose is to put the basis for a strong and equal technological and scientific collaboration in the designated fields (for phase III: Computer Science and Artificial Intelligence, Microsystems, Physics and Material Science, Telecommunications and Signal Processing, Nano-Photonics, Cognitive Neurosciences, Physics for Energy and Environment, Renewable Energies), through actions permeating the joint research effort.

**The ITPAR Programme (India-Trento Programme for Advanced Research)** was born in the frame of the Agreement signed in July 2003 between the Department of Science and Technology (DST) of the Indian government, the Autonomous Province of Trento (through the Trentitino Cultural Institute, now **Bruno Kessler Foundation**) and the **University of Trento**.



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<https://www.unitn.it/en/ateneo/54947/india-trento-programme-for-advanced-research>

# THE PHYSICAL REVIEW

*A journal of experimental and theoretical physics established by E. L. Nichols in 1893*

SECOND SERIES, VOL. 115, No. 3

AUGUST 1, 1959

## Significance of Electromagnetic Potentials in the Quantum Theory

Y. AHARONOV AND D. BOHM

*H. H. Wills Physics Laboratory, University of Bristol, Bristol, England*

(Received May 28, 1959; revised manuscript received June 16, 1959)

In this paper, we discuss some interesting properties of the electromagnetic potentials in the quantum domain. We shall show that, contrary to the conclusions of classical mechanics, there exist effects of potentials on charged particles, even in the region where all the fields (and therefore the forces on the particles) vanish. We shall then discuss possible experiments to test these conclusions; and, finally, we shall suggest further possible developments in the interpretation of the potentials.

### 1. INTRODUCTION

IN classical electrodynamics, the vector and scalar potentials were first introduced as a convenient mathematical aid for calculating the fields. It is true that in order to obtain a classical canonical formalism, the potentials are needed. Nevertheless, the fundamental equations of motion can always be expressed directly in terms of the fields alone.

In the quantum mechanics, however, the canonical formalism is necessary, and as a result, the potentials cannot be eliminated from the basic equations. Nevertheless, these equations, as well as the physical quantities, are all gauge invariant; so that it may seem that even in quantum mechanics, the potentials themselves have no independent significance.

In this paper, we shall show that the above conclusions are not correct and that a further interpretation of the potentials is needed in the quantum mechanics.

### 2. POSSIBLE EXPERIMENTS DEMONSTRATING THE ROLE OF POTENTIALS IN THE QUANTUM THEORY

In this section, we shall discuss some possible experiments

assume this almost everywhere in the following discussions) we have, for the region inside the cage,  $H = H_0 + V(t)$  where  $H_0$  is the Hamiltonian when the generator is not functioning, and  $V(t) = e\phi(t)$ . If  $\psi_0(x, t)$  is a solution of the Hamiltonian  $H_0$ , then the solution for  $H$  will be

$$\psi = \psi_0 e^{-iS/\hbar}, \quad S = \int V(t) dt,$$

which follows from

$$i\hbar \frac{\partial \psi}{\partial t} = \left( i\hbar \frac{\partial \psi_0}{\partial t} + \psi_0 \frac{\partial S}{\partial t} \right) e^{-iS/\hbar} = [H_0 + V(t)] \psi = H\psi.$$

The new solution differs from the old one just by a phase factor and this corresponds, of course, to no change in any physical result.

Now consider a more complex experiment in which a single coherent electron beam is split into two parts and each part is then allowed to enter a long cylindrical metal tube, as shown in Fig. 1.

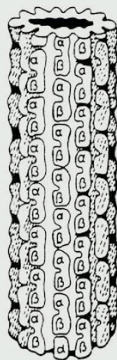
After the beams pass through the tubes, they are recombined to interfere. The interference pattern is



## Biophysical Aspects of Coherence and Biological Order



Springer



nature  
medicine

REVIEW ARTICLE

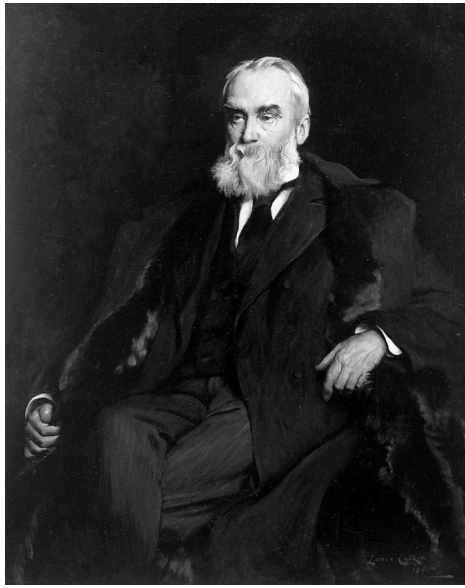
<https://doi.org/10.1038/s41591-020-0968-3>



## Extrapulmonary manifestations of COVID-19

Aakriti Gupta<sup>1,2,3,20</sup>, Mahesh V. Madhavan<sup>1,2,20</sup>, Kartik Sehgal<sup>4,5,6,20</sup>, Nandini Nair<sup>7</sup>, Shiwani Mahajan<sup>3,8</sup>, Tejasav S. Sehrawat<sup>9</sup>, Behnood Bikdeli<sup>1,2,3</sup>, Neha Ahluwalia<sup>10</sup>, John C. Ausiello<sup>7</sup>, Elaine Y. Wan<sup>1</sup>, Daniel E. Freedberg<sup>11</sup>, Ajay J. Kirtane<sup>2</sup>, Sahil A. Parikh<sup>1,2</sup>, Mathew S. Maurer<sup>1</sup>, Anna S. Nordvig<sup>12</sup>, Domenico Accili<sup>7</sup>, Joan M. Bathon<sup>13</sup>, Sumit Mohan<sup>14,15</sup>, Kenneth A. Bauer<sup>4,6</sup>, Martin B. Leon<sup>1,2</sup>, Harlan M. Krumholz<sup>3,8,16</sup>, Nir Uriel<sup>1</sup>, Mandeep R. Mehra<sup>17</sup>, Mitchell S. V. Elkind<sup>12,15</sup>, Gregg W. Stone<sup>2,18</sup>, Allan Schwartz<sup>1</sup>, David D. Ho<sup>19</sup>, John P. Bilezikian<sup>7</sup> and Donald W. Landry<sup>14</sup> ✉

Although COVID-19 is most well known for causing substantial respiratory pathology, it can also result in several extrapulmonary manifestations. These conditions include thrombotic complications, myocardial dysfunction and arrhythmia, acute coronary syndromes, acute kidney injury, gastrointestinal symptoms, hepatocellular injury, hyperglycemia and ketosis, neurologic illnesses, ocular symptoms, and dermatologic complications. Given that ACE2, the entry receptor for the causative coronavirus SARS-CoV-2, is expressed in multiple extrapulmonary tissues, direct viral tissue damage is a plausible mechanism of injury. In addition, endothelial damage and thromboinflammation, dysregulation of immune responses, and maladaptation of ACE2-related pathways might all contribute to these extrapulmonary manifestations of COVID-19. Here we review the extrapulmonary organ-specific pathophysiology, presentations and management considerations for patients with COVID-19 to aid clinicians and scientists in recognizing and monitoring the spectrum of manifestations, and in developing research priorities and therapeutic strategies for all organ systems involved.



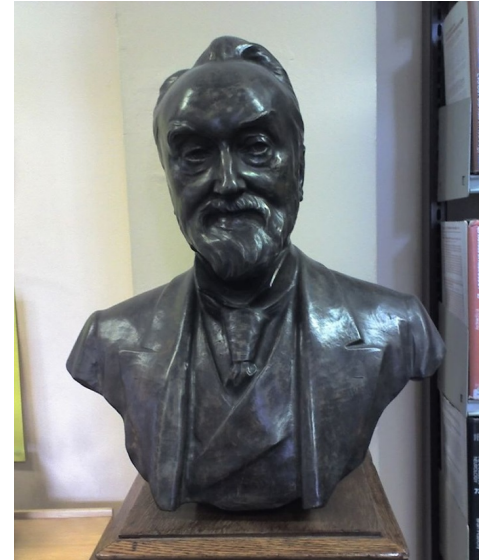
# John Hughlings Jackson, FRS

(4 April 1835 – 7 October 1911)

English neurologist

best known for his research on epilepsy.

**“It takes 50 years to get a bad idea  
out of medicine  
and  
100 to get a good idea in.”**





# Cabinet Approves Establishment Of WHO Global Centre For Traditional Medicine Under AYUSH Ministry

9 March 2022, 4:02 pm

**New Delhi:** The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved the establishment of the WHO Global Centre for Traditional Medicine (WHO GCTM) in Jamnagar, Gujarat after a Host Country agreement was signed between the Government of India and the World Health Organization (WHO).



**Dr. S. Jaishankar** ✓  
@DrSJaishankar



Important decisions taken in meeting of the Cabinet today.

-Establishment of [@WHO](#) Global Centre for Traditional Medicine in Jamnagar, Gujarat.

7:03 PM · Mar 9, 2022 · Twitter for iPhone

397 Retweets 15 Quote Tweets 3,192 Likes



**Dr. S. Jaishankar** ✓ @DrSJaishan... · 2h ...  
Replying to [@DrSJaishankar](#)

Will provide leadership on traditional medicine related global health matters and extend support to member countries in shaping policies related to research, practices & public health.

4

52

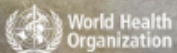
573



**Dr. S. Jaishankar** ✓ @DrSJaishan... · 2h ...  
-Setting up of National Land Monetization Corporation as a SPV for undertaking surplus land monetization.

# Benchmarks for Training in Unani medicine

Benchmarks for training  
in traditional/complementary  
and alternative medicine



# Benchmarks for Training in Ayurveda

Benchmarks for training  
in traditional/complementary  
and alternative medicine

थाईलैंड में, मालिश एक चिकित्सीय उपचार और अभ्यास माना जाता है, असपत्तासी से भी शामिल है, यह दैनिक जीवन का हिस्सा है और जीवन शैली, वाशराम का एक पल का परतनिभितिव करता है, यह एक प्राचीन कला है कि मानवता की वरिसत से संबंधित है, वह अत प्राचीन काल से आता है, थाईलैंड में, मालिश एक चिकित्सीय उपचार और अभ्यास माना जाता है, असपत्तासी से भी शामिल है, यह



#1

both within and outside ministries of health, are responsible for adhering to this, in order to guarantee the safety and the efficacy of medicines and practices for their citizens. Furthermore, safety not only relates to products or practices per se, but also to how they are used by practitioners. Therefore it is important that policy-makers are increasingly able to standardize the training of practitioners for it is another fundamental aspect of protecting both the providers and the consumers.

#2

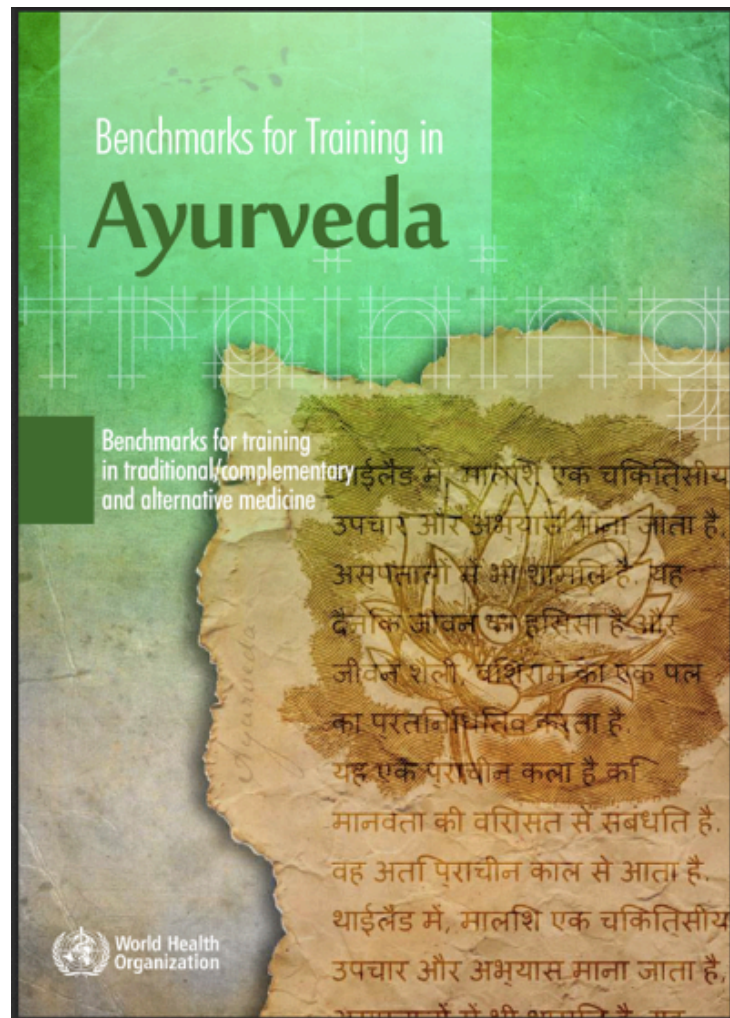
Since 2002, the Social-Health Plan of the Lombardy Region has supported the principle of freedom of choice among different health-care options based on evidence and scientific data. By referring to the benchmarks in this present series of documents, it is possible to build a strong foundation of health-care options which will support citizens in exercising their right to make informed choices about different styles of care and selected practices and products.

The aim of this series of benchmark documents is to ensure that TM/CAM practices meet minimum levels of adequate knowledge, skills and awareness of indications and contraindications. These documents may also be used to facilitate establishing the regulation and registration of providers of TM/CAM.

Step by step we are establishing the building blocks that will ensure consumer safety in the use of TM/CAM. The Regional Government of Lombardy hopes that the current series will be a useful reference for health authorities worldwide, and that these documents will support countries to establish appropriate legal and regulatory frameworks for the practice of TM/CAM.


Luciano Bresciani  
Regional Minister of Health  
Regional Government of Lombardy

Giulio Boscagli  
Regional Minister of Family  
and Social Solidarity  
Regional Government of Lombardy



# Ayurveda Network



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of the

Ministry of Human Resource Development, Government of India.

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**Dr. Amit Nakanekar**

**Lecture Note: Research in Day-to-day Practice by Dr. Amit Nakanekar**

Administrator - March 10, 2022

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**Dr. Murlidhar Paliwal**

**Lecture Note "The Concept of Manas in Ayurveda" (Part-2) By- Dr....**

Administrator - March 3, 2022

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Established under PMMMNMTT scheme of the Ministry of Education, and supported by the Ministry of AYUSH under "Ayurgyan" Central Sector Scheme for "Web-based (on-line) educational programs" being coordinated by Rashtriya Ayurveda Vidyapeeth, New Delhi

<https://ayurvedanetworkbhu.com/about-us/>

# Ayurveda Network



However, we have the following issues in Ayurveda that need urgent attention.

1. Ayurveda is an ancient medical system which has to be **taught by supplementing with contemporary knowledge.**
2. Ayurveda is an essentially service-oriented science. **The present curriculum of Ayurveda has failed in translating knowledge into skills.** It needs to be **transformed from the present 'theory-based' one to 'application-oriented' one.**
3. The science of Ayurveda has evolved through experiences and observations of thousands of years. **This needs to be demonstrated in actual practice. The present curriculum has failed to address this problem.**
4. The present curriculum has not given adequate space to incorporate newer health challenges, drugs, pharmaceutical advances, and diagnostic and therapeutic modalities.



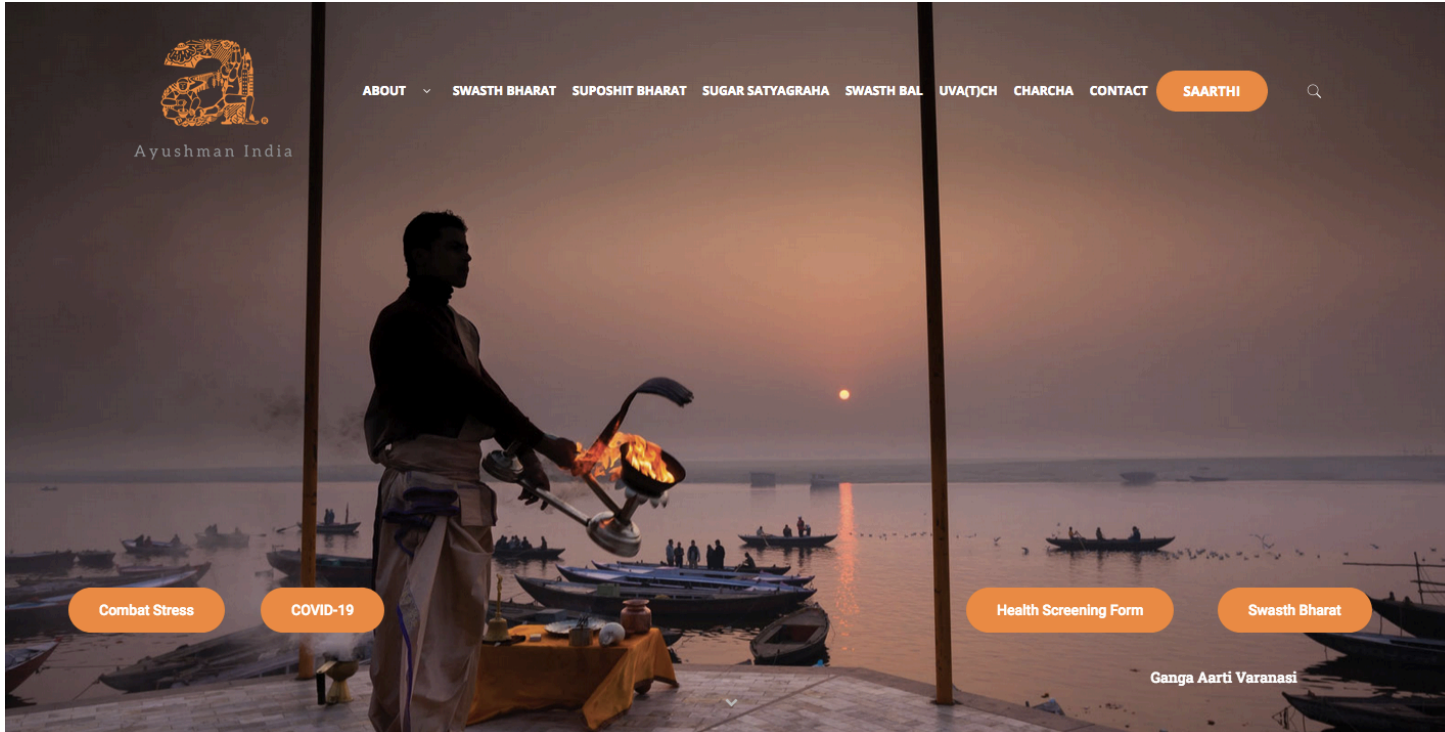
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# Ayushman India



Ayushman India

Ayushman India is committed to bringing the strength of India's Ancient Sciences to provide prevention and cure of today's Global Health issues through interventions validated by modern science.



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# GLOBAL HEALTH & CARE:

## AYUSH SYSTEMS & AYUSH DIPLOMACY FOR BUILDING GLOBAL HEALTH

Health > Health & Care > versus Healthcare

**Health a prisoner / hostage of Healthcare**

current problems in international healthcare

Global Health topics:

Access and right to health

Infectious diseases

Non-communicable diseases

Reproductive health

Mental health

Cultural dimensions of medicine

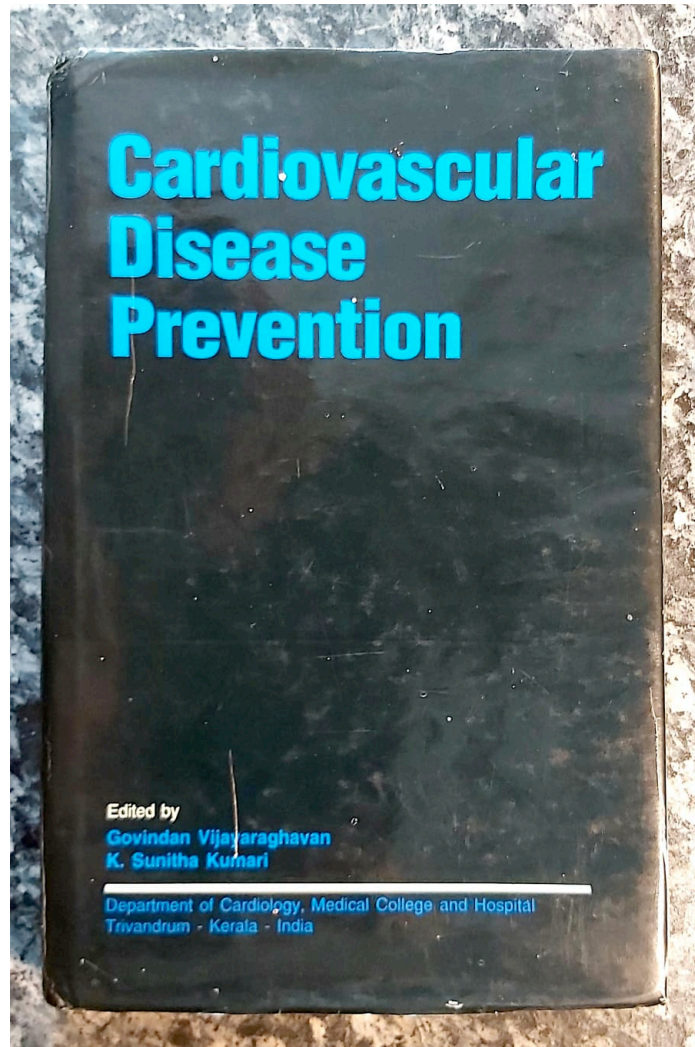
important global health topics, such as access to care, infectious disease, reproductive health and mental health care

**AYUSH solutions to global health care problems**

<https://www.frontiersin.org/articles/10.3389/fimmu.2019.00799/full>

# P5 Medicine:

Personalized,  
Predictive,  
Preventive,  
Participatory,  
Precision  
Medicine



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**Cardiovascular Disease  
Prevention**

*Proceedings of the workshop organised by the  
Department of Cardiology,  
Medical College, Trivandram - Kerala - India.  
1996*

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*A program sponsored by the  
World Health Organisation  
and the  
Ministry of Health and Family Welfare,  
Government of India*

*Edited by*  
**Govindan Vijayaraghavan M.D., D.M (Card), F.R.C.P (E)**  
Professor and Head of the Department of Cardiology  
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Assistant Professor of Cardiology,  
Medical College and Hospital, Trivandrum - Kerala - India.



## 'Swastha Gram Yojana'

### Arogya Bharati to Work for Positive Health in a Village

Arogya Bharati, the premier organisation dedicated to the sphere of health in rural areas, has come up with a new initiative to spread positive health in rural India. "We have been working on 'Swastha Gram Yojana' from 7 years in a village in Gujarat. Results of our efforts in that village are very encouraging. We have demonstrated a positive impact on many health parameters. Hence we now want to replicate the experiment across number of villages in different parts of our country," said Dr Hitesh Jani, HoD at Gujarat Ayurveda University in Jamnagar and convener of 'Swastha Gram Yojana'. "We have developed a 10 point programme to be followed under the 'Swastha Gram Yojana', which includes environmental protection, clean drinking water, developing collective thinking about the health issues in the village and promoting discussion over such issues, developing 'Health Card' scheme for health monitoring, cleanliness drive, de-addiction etc. We are also in the process of enhancing the programme with the help of institutions and individuals who have worked in the area of rural health," Dr. Jani added.

He said there is a vast gap between the health facilities in cities and the rural area which makes the task of rural welfare tougher. While working on the area, we realised that the scenario can be altered by creating awareness about positive health in the rural area. If we can create an environment where people will be motivated to follow a positively healthy lifestyle and they could be provided with guidance from experts in the field of health, health conditions of an area say a village can be altered within a stipulated time frame. Once we came to this conclusion, we started to experiment it at the Surya village in Jamnagar district of Gujarat and 7 years down the line we can easily see that this works, he said.

#### Volunteer

Sewa International invites volunteers to come forward and support various initiatives by volunteering with us.

[Volunteer](#)

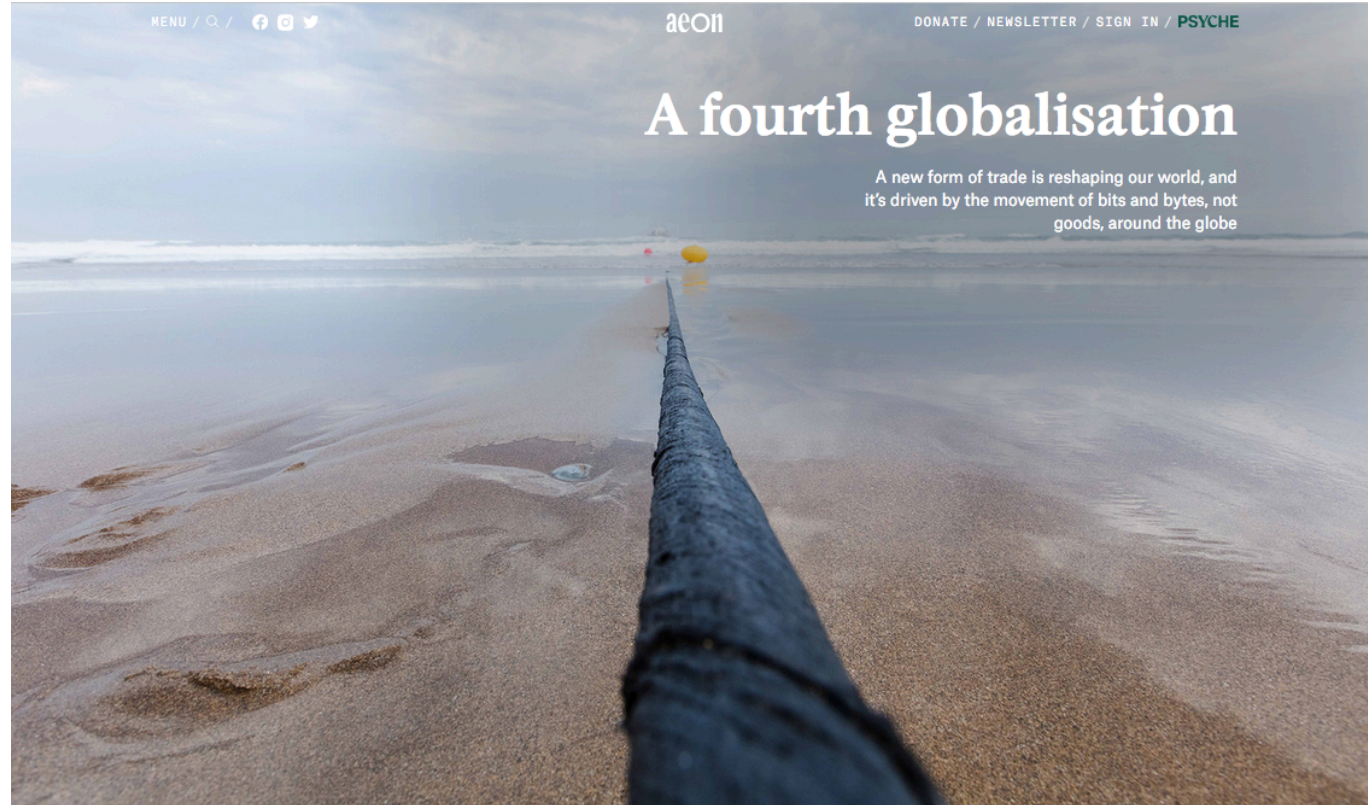
# The 4<sup>th</sup> Globalization & The 5<sup>th</sup> Industrial Revolution

*A new form of trade is reshaping our world, and it's driven by the movement of bits and bytes, not goods, around the globe*

Exports of raw materials no longer generated sufficient hard currency to service their debts

Trade in manufactured goods peaked in 2008. The flow of investment into foreign businesses and factories crashed that same year

The MAREA undersea cable, running 6,600 km from Virginia Beach in the United States to Sopotana, near Bilbao, in Spain. Photo courtesy of Microsoft



The MAREA undersea cable, running 6,600 km from Virginia Beach in the United States to Sopotana, near Bilbao, in Spain. Photo courtesy of Microsoft

<https://aeon.co/essays/the-globalisation-of-ideas-will-be-different-than-that-of-goods>