

Symposium

Research Design and Methodology for Ayurveda as a Whole System of Medicine

P. Ram Manohar, Coimbatore, India

Jennifer Rioux, Phoenix, USA

Anand Dhruva, San Francisco, USA

Christian Kessler, Berlin, Germany



Contents

- **C Kessler:** Ayurveda Research Landmarks and Milestones
- **R Manohar:** Three Pronged Approach on Whole Systems Ayurveda
- **A Dhruva:** Applying Whole Systems Research Concepts to the Study of Ayurvedic Medicine
- **J Rioux:** Issues in Design and Methodology for Clinical Research on Ayurveda as a Whole System of Medicine



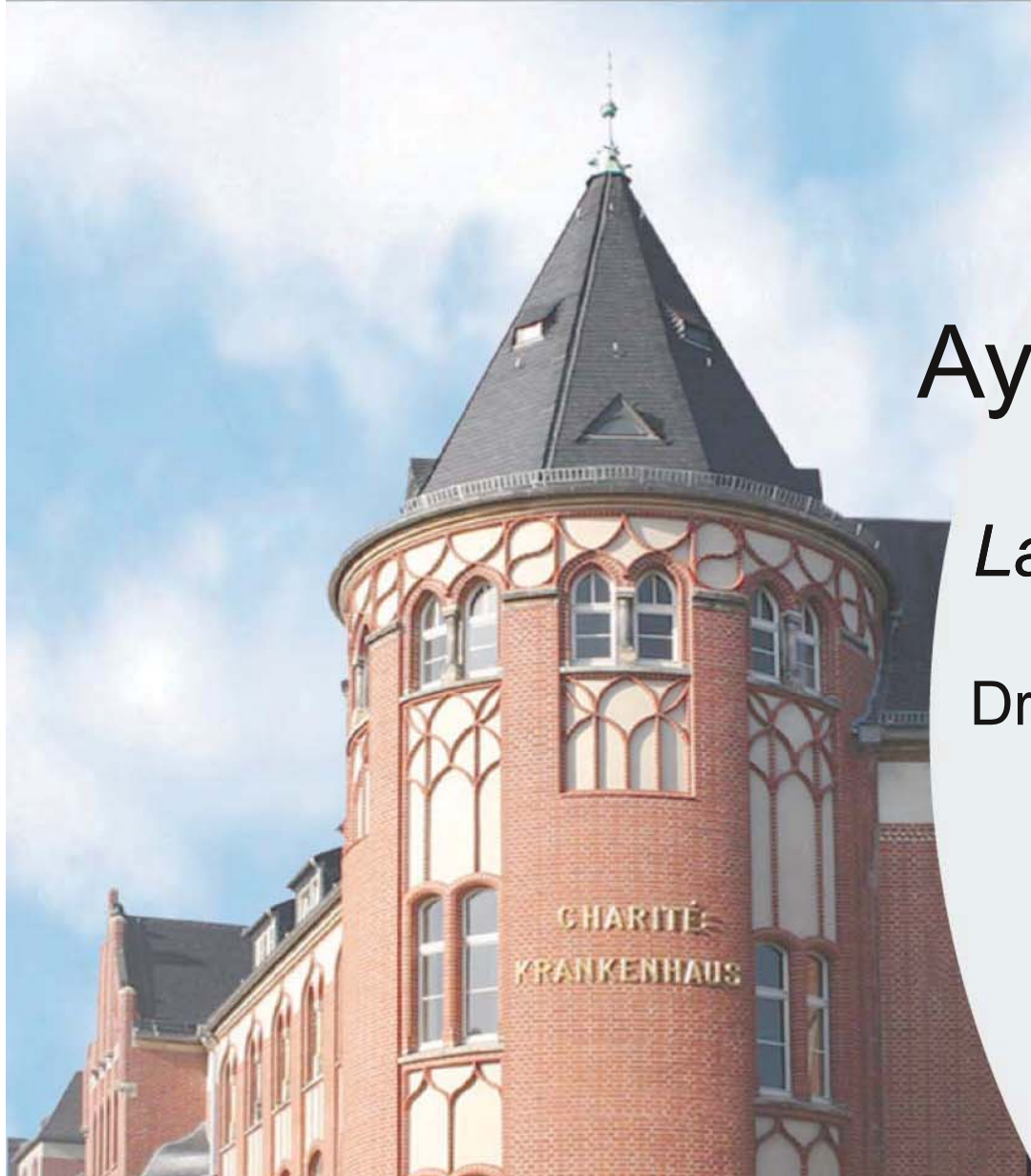


Ayurveda Research

Landmarks & Milestones

Dr. Christian S. Kessler, M.A.

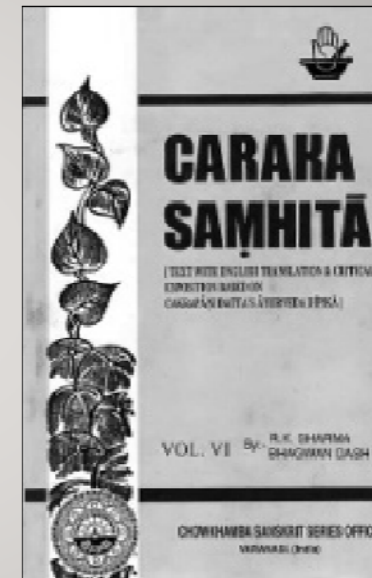
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Berlin, Germany



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Ayurveda in South Asia

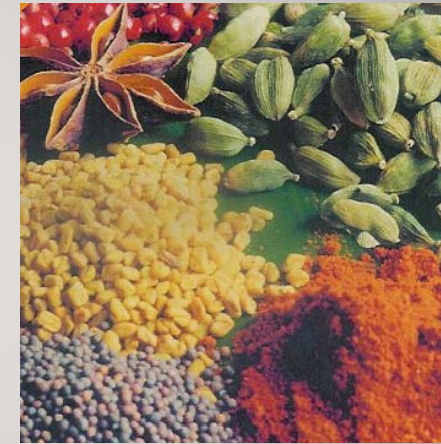
- Officially acknowledged **broad system** of medicine in India, Nepal & Sri Lanka
- > **450.000** Ayurvedic physicians in India alone
- > **300** universities and colleges for Ayurveda in South Asia
- Unbroken medical tradition > **2000 years** in countries of origin
- Widely practiced in a living environment of more than **1,4 billion** people



Sources: 1. Indian Health Ministry (AYUSH, CCRAS) 2012;
2. Association of Ayurvedic Physicians of India 2012

Ayurveda on a Globale Scale

- **Google:** 41 600 000 entries (Ayurveda)
- **Google-Scholar:** 32 000 entries (Ayurveda)
- **Pubmed:** 2 700 entries (ayurved*)
- **Dhara Database:** 52 855 entries
- **Amazon:** 2972 entries (Ayurveda)
- Growing **Non-Asian** academic Ayurveda-education (e.g. in Americas, Europe, Australia)
- Growing International **research networks** (like this)



of date: 28th April 2012



DHARA is an online index of articles on Ayurveda published in research journals worldwide.

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Articles at a Glance

All Articles :	52855	Articles in 2011 :	3190
Full Text :	2607	Articles in 2010 :	4136
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Paid Full Text :	932	Articles in 2008 :	3595
Abstract Only :	39704	Article Yearwise	
Title only :	10544	Most Searched Articles	

Authors at a Glance

All Author Names* :	105549
Articles written by only one Author :	7289
Maximum Articles for an Author Name :	233
First Author Names :	35031
Last Author Names :	31487
*Names of one author in different formats have not been merged	

Journals at a Glance

All Journals :	4209
Ayurveda (3350 Articles) :	13
Complementary and Alternative Medicine (393 Articles) :	16
Mainstream and Other Medical Disciplines (49032 Articles) :	4116
Journals not Indexed in Pubmed (3173 Articles) :	20
Most Searched Journals	

Links

Latest Published Articles

[A Short Guide to Peer-Reviewed, MEDLINE-Indexed Complementary and Alternative Medicine Journals](#)
Morgan S, Littman L, Palmer C, Singh G, Lariccia PJ
Holistic Nursing Practice 2012 May ; 26 (3) :164-72 No

[Androgenic and Spermatogenic Activity of Alkylamide-Rich Ethanol Extract of *Centella asiatica* L.](#)
Sharma V, Boonen J, Spiegeleer BD, Dixit VK
Phytotherapy research : PTR 2012 Apr 4 No

[Buyers Beware: Lead Poisoning due to Ayurvedic Medicine.](#)
Pierce JM, Estrada CA, Mathews RE Jr
Journal of General Internal Medicine 2012 Apr 3 No

[Cyclin-Dependent Kinase Inhibition by Flavonoids.](#)
Jain SK, Bharate SB, Vishwakarma RA
Mini reviews in medicinal chemistry 2012 Apr 17 No

[Evaluation of anxiolytic effect of *Medicago sativa* in mice.](#)
Bora KS, Sharma A
Pharmaceutical Biology 2012 Apr 10 No

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Journals Area

Click on icon to search Journals in DHARA dal alphabetical order

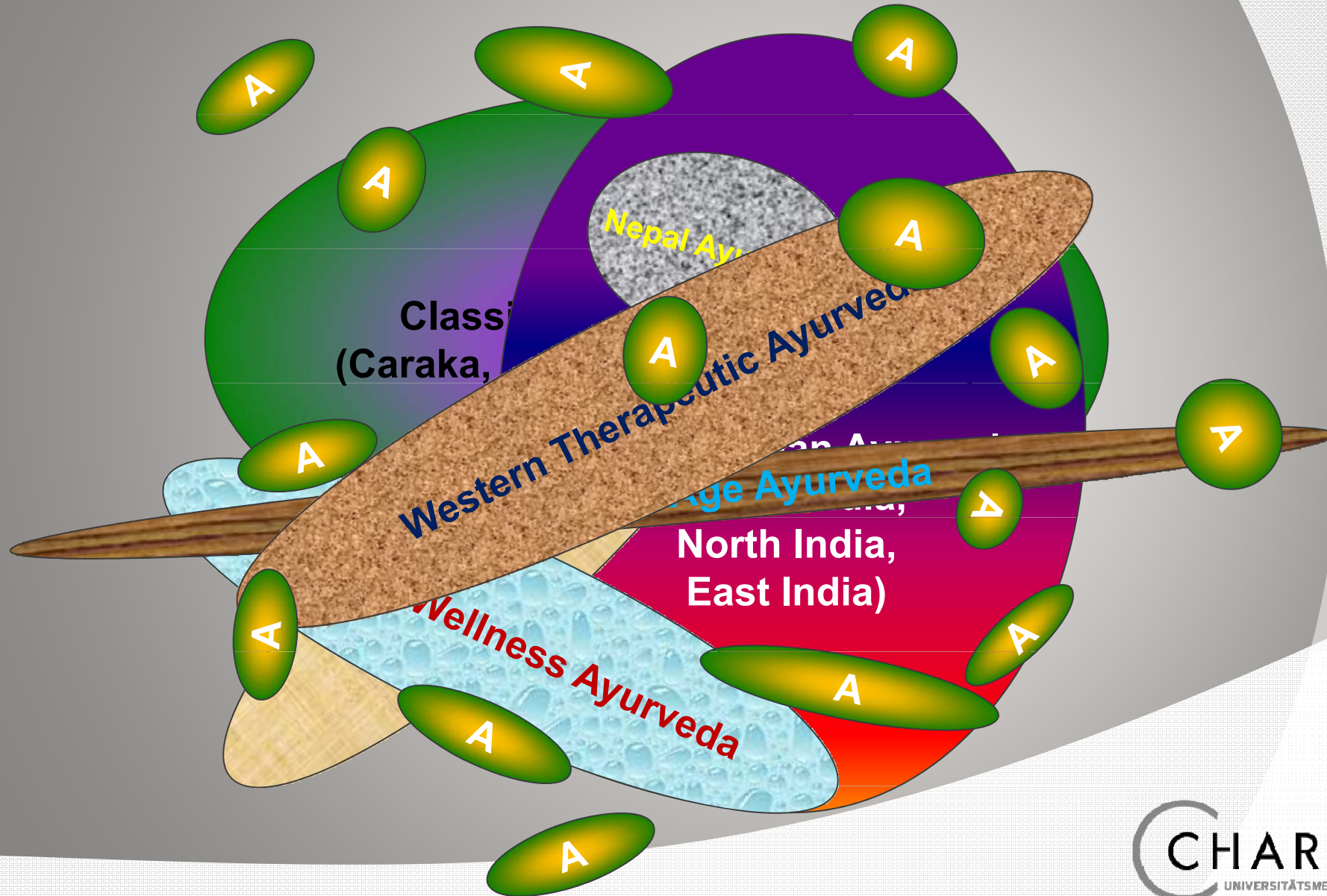
Ayurveda´s most prominent features

- **Constitution-based** medicine with tailored treatment approaches!
- Part of **Traditional Indian Medicine**
> easily combinable with Yoga, MBM!
- Eo ipso multimodal & **multidimensional**!
- „Melting Pot“: role model for **Integrative** Medicine!
- **Heterogenous** sources: easily globalizable!
- Focus on self-empowerment and **prevention**: highly modern!

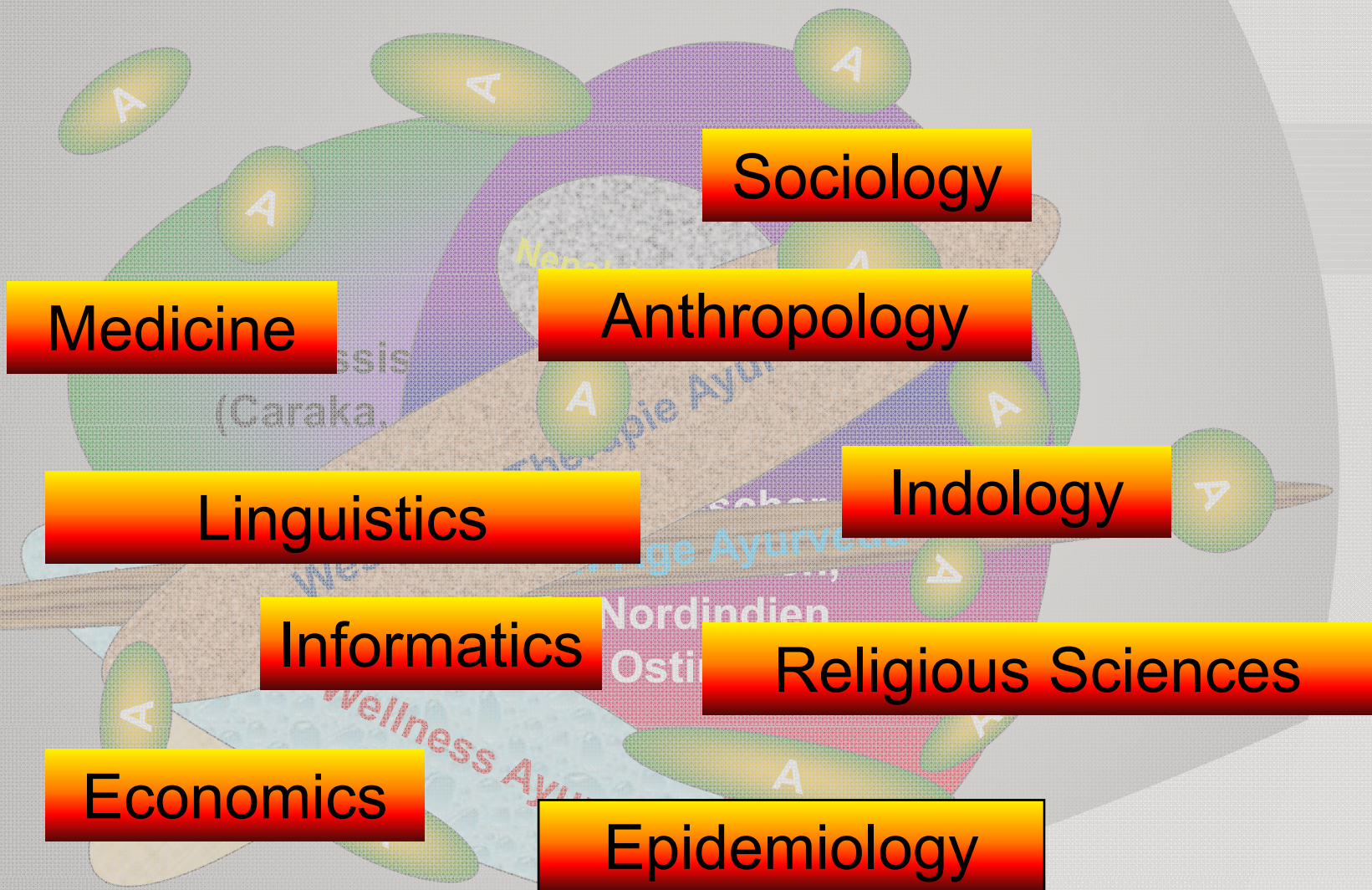


Different Ayurvedas!

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21st Century Ayurveda Research



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Ayurveda Medical Research Fields

Top 5 + 1

Constitution

Reverse
Pharmacology

Interdisciplinary
Overlaps

Tailored
Treatment

Prevention

Controversies

Ayurveda Medical Research Constitution

- Genomics
& Epigenomics
- Fuzzy-Logic
- Multivariate
Analyses



Ayurveda Medical Research Constitution

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- *Morandi A et al. (2011):* Ayurveda, the paradigm for personalized medicine. The EPMA Journal Vol. 2 (Suppl. 1): S152-S153. Doi: 10.1007/s13167-001-0111-0(2011).
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Ayurveda Medical Research Constitution

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Ayurveda Medical Research

Tailored Treatment

- Alternative & Adapted Trial Designs
- Diagnostic Studies
- CER/PCOR
- PBRN



Ayurveda Medical Research Tailored Treatment

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- *Witt C, Kessler C (running 2012):* PARIKSA: Pilot Study on the Assessment of the Reliability of Knee-Osteoarthritis Diagnostics as Performed by Specialists of Ayurveda (PARIKSA-Trial)
- *Gupta SN et al. (submitted 2012):* Ayurvedic Management of Hepatic Cirrhosis Complicated with Ascites A non-randomized, observational clinical study
- *Rioux J (accepted for publication 2013):* A Complex, Non-linear, Dynamic Systems Perspective on Ayurveda and Ayurvedic Research. *Journal of Alternative and Complementary Medicine*. 2013, March, 19(3).
- *Patel K, Gupta SN et al. (submitted 2012):* Ayurvedic Management of Ulcerative Colitis, A non-randomized, observational clinical study.
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- *Michalsen A, Witt C et al. (running 2012):* Complex Ayurvedic Treatment in Osteoarthritis of the Knee Against Standard Care, a RCT (CARAKA-Trial)

Ayurveda Medical Research Tailored Treatment

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Ayurveda Medical Research

Reverse Pharmacology

- Ethno-
Pharmacology
- Ethnobiology



Ayurveda Medical Research

Reverse Pharmacology

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Ayurveda Medical Research

Reverse Pharmacology

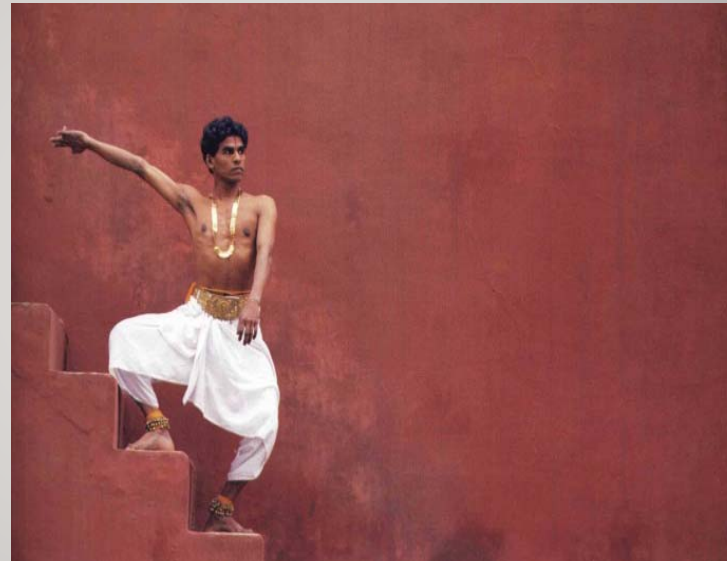
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Ayurveda Medical Research Prevention

- Primary,
Secondary &
Tertiary Prevention
- Self-Efficacy
- Self-Empowerment
- Self-Healing



Ayurveda Medical Research Prevention

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Ayurveda Medical Research Prevention

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Ayurveda Medical Research

Interdisciplinary Approaches

- Society Relevance
- Cultural Translation
- Creating Databases
- (e-)Learning
- Reviews
- Health Technologies



Ayurveda Medical Research

Interdisciplinary Approaches

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Ayurveda Medical Research

Interdisciplinary Approaches

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Ayurveda Medical Research Controversies

- Cleansing Methods & Pancakarma
- Rasayana & Rejuvenation
- Heavy Metal Contamination
- Heavy Metal Medical Use



Ayurveda Medical Research Controversies

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- *Sarkar PK, Chaudhary AK (2010):* Ayurvedic Bhasma: the most ancient application of nanomedicine. Journal of Scientific & Industrial Research. Vol 69, December 2010, pp.901-905.
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- *Valiathan MS et al. (2012, running):* Effect of rasayana on human lymphocyte biology.
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Ayurveda Medical Research Controversies

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Questions 1

- How do we deal with 2000 years of empirical evidence?
- Are the „controversies“ a potential research treasure chest?
- How can we synergize international & interdisciplinary Ayurveda research efforts?
- Can personalized Ayurveda-Medicine be delivered cost effectively (CER / PCOR and PBRN)?

Questions 2

- How do translational issues influence Ayurvedic research methodology?
- What can we learn from e.g. TCM research for WMSR-Ayurveda (also: what not to do)?
- Definitions of Ayurveda: What is it, what can it be?
- What do we need for creating face-validity within the Ayurvedic research community?



Thank you !

Research Symposium

Ayurveda as a Whole System of Medicine

P. Ram Manohar, Coimbatore, India

Jennifer Rioux, Phoenix, USA

Anand Dhruva, San Francisco, USA

Christian Kessler, Berlin, Germany