

## Tentative Outline

Special Issue for Current Pharmacogenomics & Personalized Medicine

Guest Editor: Vijay Kothari

### VALIDATION OF TRADITIONAL MEDICINAL PRACTICES THROUGH MODERN SCIENTIFIC TOOLS AND TECHNIQUES

#### Aims & Scope:

'Complementary and Alternative Medicine (CAM)' is the term used collectively for different ancient traditional medicinal practices. Ancient medicinal texts of Indian, Chinese, and Arab origin are of great value, and hold much to be dig by modern practitioners of medicine. However, a prerequisite to the wider acceptance of CAM is their validation on the parameters of modern science. This is necessary for generating confidence in public regarding the efficacy of various CAM approaches, as well as for getting the requisite regulatory approvals. Many labs across the globe currently are engaged in checking the efficacy of various herbal formulations described in Ayurved and other texts of antiquity using modern in vitro/ in vivo/ genomic assays. Transcriptome profiling is being applied for deciphering the molecular mode of action of many anti-infective herbal formulations described in different CAM literature. These approaches are producing new insights regarding the mechanism of various herbal formulations, at the level of gene expression. Combining the ancient knowhow with modern pharmaceutical and drug design approaches provides a new interface (e.g. ayuromics) for design of novel drugs.

This thematic issue aims at featuring manuscripts from various branches of biology, pharmacy, and medicine, describing the use of modern scientific tools in validating traditional medicinal practices. This issue is expected to showcase the current flavour of the field through good-quality research/review papers. It will highlight the variety and diversity of ways how the ancient knowhow can get support from modern science. It would hopefully attract more budding scientists to employ the tools and techniques available at their disposal for validation of traditional CAM practices.

#### Keywords:

Ayurved, ayuromics, complementary and alternative medicine (CAM), genomics, natural products, new drug targets.

#### Subtopics:

- In vitro assays for checking efficacy of natural products
- Use of simple model hosts (e.g. *Caenorhabditis elegans*, *Drosophila melanogaster*, etc.) for preliminary in vivo efficacy assay of CAM formulations
- Role of modern 'omics' (genomics/ transcriptomics/ proteomics/ metabolomics) tools in identifying new drug targets, and developing mechanistic insights into efficacy of herbal formulations

- Approaches for high throughput screening of plant extracts, described in ancient medicinal texts pertaining to Ayurved, Siddha, Unani, etc.
- Metabolic profiling of medicinal plants
- Training of traditional medical practitioners in modern science, and vice-versa (i.e. training the modern medicine practitioners in relevant ancient practices)
- Application of bioinformatics tools for investigation on natural products
- Toxicity/ Safety/ Regulatory issues with poly-herbal formulations

Schedule:

Tentative date of submission of manuscripts: June, 2018