

# Biotechnology World Convention

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## Biotechnology and plant secondary metabolites production

Secondary (also known as natural) compounds derived from plants have been used for various purposes, such as, pharmaceuticals, agrochemicals, flavors, fragrances, pigments, dyes, cosmetics, food additives etc. Although some of these compounds are synthesized chemically but due to their complex chemical structures and complicated biosynthetic pathways, most of them are obtained from plants. Biotechnology offers a valuable tool to produce these compounds of interest in a desired amount and an eco-friendly way. By employing biotechnological techniques, it is possible to regulate the biosynthetic pathway of plant in order to enhance/decrease the synthesis of particular compound. Despite, the advances in biotechnology techniques, there are only a few successful examples of secondary compounds production at an industrial level. The symposium addresses the new challenges and emerging researches in the area of biotechnology and plant secondary metabolism. The focus is to highlight the various strategies to increase the quality as well as quantity of secondary compounds. The topics covered under the symposium include: Chemistry and pathways of secondary compounds derived from plants, phytochemistry, phytotherapy, quality control of natural products, production of secondary compounds using biotechnological means, *in vitro* culture (cell, organ or tissue culture), various factors affecting production of secondary compounds, immobilized culture, two-stage and two-phase culture systems, hairy root culture, genetic modifications, metabolic engineering, nanotechnology and nanobiotechnology, green syntheses of metallic nanoparticles using plant extracts, modifications in endogenous pathways and stable transfer as well as integration of gene involved in flux-limiting steps of biosynthetic pathways, characterization of genes and proteins involved in secondary metabolic pathways, transcriptomics, proteomics and metabolomics studies with respect to secondary metabolism, and industrial production of secondary compounds. The event will bring together the academia and industry in a common international platform to exchange the knowledge, experience and research innovations among researchers working in the area of Biotechnology. This symposium will provide an opportunity for scientists, researchers from academia/industries, graduate and post-doctoral researchers as well as young researchers to explore their knowledge and face to face talk with experienced researchers.

## Biography

Sonia Malik is working as a Professor at Biological & Health Sciences Centre, Department of Biology, Federal University of Maranhão, Sao Luis. Her area of research involves *in vitro* production of plant secondary metabolites and metabolic engineering. She is an active member of post-graduate research program at Federal University of Maranhão. She has won many awards and recognitions for her work. Her international experience includes various programs, contributions and participation in different countries for diverse fields of study. She has been awarded with FAPEMA Senior Researcher grants in August 2015. Her research interests reflect in her wide range of publications in various national and international journals. She is the Editorial Board Member and reviewer of scientific journals.

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