

MINISTRY OF HUMAN RESOURCE DEVELOPMENT, GOVT. OF INDIA
GLOBAL INITIATIVE OF ACADEMIC NETWORKS (GIAN)

ORGANIZED BY: DEPARTMENT OF ZOOLOGY, ADVANCED CENTRE FOR
REGENERATIVE MEDICINE AND STEM CELL RESEARCH IN
CUTANEOUS BIOLOGY (AcREM-STEM), UNIVERSITY OF KERALA



13-17

OCTOBER, 2022



COURSE ON
**ROLE OF NANO-NUTRACEUTICALS
IN TISSUE REGENERATION**

IN ASSOCIATION WITH : DEPT. OF NANO SCIENCE AND NANOTECHNOLOGY &
CENTRAL LABORATORY FOR INSTRUMENTATION AND
FACILITATION (CLIF), UNIVERSITY OF KERALA



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Global Initiative of Academic Networks (GIAN) in Higher Education was launched in 2015. It is a program of Ministry of Human Resource and Development. GIAN is aimed at tapping the talent pool of scientists and entrepreneurs, internationally to encourage their engagement with the institutes of Higher Education in India so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence.

Overview

The University of Kerala's GIAN course is meant to provide participants with an overview of nano-nutraceutical in tissue regeneration. Nutraceuticals constitute a distinct product category that exceeds food but falls short of pharmaceuticals. A fraction of the supplied nutraceutical gets absorbed and reaches the actual pharmacological site of action, while the remainder is either excreted or causes non-specific toxicity and severe side effects due to poor bio-distribution. To address these issues, nano-nutraceuticals have been developed using nanotechnology principles for the efficient delivery of nutraceuticals to address these issues. Nano-nutraceutical are the standardised and characterised bioactive substances used to regulate stem cell function, prevent disease, penetrate the skin, and regenerate tissue. This course helps students comprehend the significance of Nutraceuticals to human health.

PROGRAM SCHEDULE

Oct 13 th	Day 1: 13/10/2022 THURSDAY
	9.30 am to 10.30 am: Inaugural Function
	10.30 am to 10.45 am: Tea/Coffee Break
	11.00 am to 12.00 pm: Lecture 1: Topic: Nanotechnology Basics for drug and nutraceuticals delivery
	12.00 pm-1.00 pm: Lecture 2 : FDA Approved nanoformulations for clinical applications
	1.00 pm- 1.45 pm : Lunch break
	1.45 pm - 3.45 pm: Tutorial 1: Nanoparticle synthesis tutorial
	3.45 pm- 4.00 pm : Tea/ coffee break
Oct 14 th	4.00 pm- 7.00 pm : Hands on experience : Overview & PLGA, silver, and magnetic nanoparticles synthesis
	Day 2 : 14/10/22 FRIDAY
	9.30 am- 10.30 am: Lecture 3 : Mucin and its implications in medicine
	10.30 am- 10.45 am: Tea/coffee break
	10.45 am – 12.45 pm: Lecture 4: Nanotechnology-Applications I
	12.45 pm - 1.30 pm: Lunch break
	1.30 pm – 2.30 pm: Lecture 5: Nanofiber preparation
	2.30 pm- 5.30 pm: Hands on experience: Overview & Nanoparticles purification
Oct 15 th	Day 3 : 15/10/22 SATURDAY
	9.30 am-10.30 am: Invited talk.1
	10.30 am -10.45 am: Tea/coffee break
	10.45 am-1.45 pm: Hands on experience : Overview & MTT assay treatment with nanoformulations
	1.45 pm – 2.30 pm : Lunch break
	2.30 pm – 3.00 pm: Quiz
3.00 pm – 6.00 pm: Hands on experience : Overview & Nanoparticle characterization, SEM/TEM & FTIR	

Oct 16 th	Day 4 : 16/10/22 SUNDAY
	9.30 am- 10.30 am: Invited talk.2
	10.30am – 10.45am : Tea/coffee break
	10.45 am- 1.30 pm ; Hands on experience: Overview & Cellular uptake study treatment
	1.30 pm – 2.15 pm : Lunch break
	2.15 pm – 5.30 pm : Hands on experience: Overview & Cellular uptake study analysis by microscopy or flow cytometer
Oct 17 th	5.30 pm – 6.00 pm : Cultural Program
	Day 5 : 17/10/22 MONDAY
	10.00 am- 1.00 pm: Hands on experience : Overview & MTT assay treatment with Nanoformulations.
	1.00 pm – 1.45 pm : Lunch break
	1.45 pm – 3.00 pm : Quiz, Course Evaluation: Overview, Discussions, and Feedback
	3.00 pm to 4.15 pm: Invited talk.3 & Valedictory Session
	4.15 pm – 4.30 pm : Tea/ Coffee Break

The Faculty



Dr Subhash C. Chauhan, Ph.D. is the Professor and Chairman of the Department of Immunology and Microbiology, Director, South Texas Centre of Excellence in Cancer Research School of Medicine, University of Texas Rio Grande Valley (UTRGV), Edinburg, TX. He accomplished his Ph.D. in Reproductive Endocrinology in 1997. Primary research interest of Dr. Chauhan's lab is to identify and characterize the diagnostic and therapeutic targets for cancer. This research is aimed for the identification and characterization of biomarkers that aberrantly express or localize in cancer cells to develop newer tools for early disease diagnosis. His lab is also developing novel targeted therapeutic modalities for the treatment and diagnosis of cancers. Cancer tissues overexpress certain cancer associated antigens, and antibodies against these antigens will potentially recognize cancer cells. These antibodies can be used to deliver the radionuclides and nanoparticles-encapsulated drugs specifically to

the tumors. The research group includes an outstanding team of basic scientists, physician scientists, clinicians and biostatisticians whose teamwork has resulted in publication of high impact research articles and significant extramural funding (5 NIH RO1, 2 DOD and 1 Private Foundation, 1 Industry grants). Research work from the lab has been presented at National and International symposiums/conferences. Dr Chauhan have been actively involved in the peer review process of manuscripts for numerous journals, NIH study sections, multiple external funding agencies, training of junior faculties and graduate students.



Dr Murali Mohan Yallapu, Ph.D. is a tenured Associate Professor of the Immunology and Microbiology Department and Member of South Texas Center of Excellence in Cancer Research (ST-CECR) at the School of Medicine, University of Texas Rio Grande Valley (UTRGV), McAllen, Texas, USA. Dr. Yallapu is a recipient of the “Prof. A. Kameswara Rao’s Gold Medal-1999”. Dr. Yallapu has received his PhD degree in Polymer Science & Technology and completed postdoctoral training in materials science,

drug delivery, nanomedicine, and cancer biology from Cleveland Clinic, University of Nebraska Medical Center, Sanford Research, and Gwangju Institute of Science & Technology. Before Joining the UTRGV, Dr. Yallapu served as Assistant Professor at the Department of Pharmaceutical Sciences, The University of Tennessee Health Science Center. Dr. Yallapu has been serving as Editorial Board Member for various drug delivery, nanotechnology, and cancer related journals. He has been an ad-hoc reviewer for NIH and various other funding agency study sections. He has published over 175 peer-reviewed articles and reviews in journals, book chapters, and over 125 conference abstracts. His work was cited over 13132 times, with an H-index of 56 and an i10-index of 134. His current research primarily focuses on the development of nanomaterials for improved therapeutic potential of clinical drug(s) and developing new constructs for biomedical applications. Additionally, through cancer immunology institute we will generate safe and effective nanoformulations for cancer immunotherapy.

The Co-ordinator



Dr. Sreejith. P, Ph.D. Among the research areas are cutaneous and regenerative biology, healthy ageing, cancer biology, and ayurvedic biology. He completed a Post-Doctoral Fellowship in Cancer Biology while he was employed at Cleveland's Lerner Research Institute. After that, he pursued alopecia research at Cleveland, Ohio's Case Western Reserve University. He also engaged in short-term cancer studies at the University of Illinois College of Medicine in Peoria. A FLAIR International Fellow took part in an internship and an academic staff development programme at the Higher Education Academy in York and the University of Roehampton in London concurrently with the FLAIR programme in Kerala. He also finished the DHR International Fellowship at the University of Manchester in the UK. He received funding from ICMR, DHR, UGC, KSCSTE, the Govt. of Kerala and the University of Kerala. He also published many research articles in the areas of hair and cancer biology.

Total number of Participants: **20**
The participation fees for taking the course are as follows (without accommodation):
Participants from abroad: **USD 150**
Faculties/Scientists from private companies (India): **Rs. 4000/-**
Students (India): **Rs. 2500/-**

Venue: Dept.of Zoology, University of Kerala

For registration:

<https://surveyheart.com/form/62eb6c61be27af2147a6a943>



Correspondence through: giankeralauniversity@gmail.com

Account details:
DD/Cheque should be sent in the name of
"CO ORDINATOR GIAN COURSE"
Account Number: **67376976689**
IFSC CODE: **SBIN0070043**
Branch Code: **70043**

Chief Co ordinator: Prof./Dr. G. Prasad,
Head, Dept. of Zoology, University of Kerala

For Course Details Contact,

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