



Dr. Harisingh Gour Vishwavidyalaya
(A Central University)
Sagar (M.P.)

Gian

GLOBAL INITIATIVE OF ACADEMIC NETWORKS



Ministry of Human Resource Development
Government of India

A Course Under
Global Initiative of Academic Networks
Ministry of Human Resource Development
Government of India

One Week Course work on Handling & Experimentation in :

MICROALGA AS RENEWABLE HIGH VALUE COMPOUNDS

November 22nd -27th , 2016

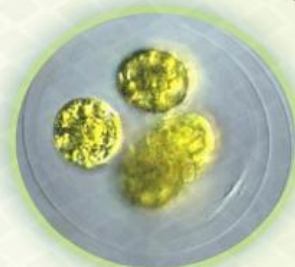
Registration
Open



By Foreign Expert Faculty:
Professor Benoît Schoefs
Plant Physiology
School of Sciences and Technology
University of Le Mans, France


Université
de Maine

Organized by:
Dr. Vandana Vinayak
Department of Criminology and Forensic Science
Dr. Harisingh Gour Vishwavidyalaya,
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SCOPE OF THE PROGRAM

Microalgal are promising producers of many valuable compounds serving food, healthcare and pharmaceutical industries. The advancement in "omic" technologies is to generate information to develop such algal strains rich in 4th generation biofuel.

OVERVIEW

The rise of human populations, potential climatic changes and the growth of cities contribute to the depletion of natural resources and increasing their cost. To overcome difficulties in supplying populations and reducing the resource cost, a search for alternative energy, pharmaceutical and nanotechnology sources has started. Among them, microalgae are very promising because they use carbon dioxide to produce biomass and/or valuable compounds. Once produced, the biomass is harvested and processed through a dedicated downstream program. Drying, grinding and extraction steps are the most common steps of such programs and are destructive to the microalgal biomass that then needs to be renewed. In addition, extraction and purification steps generate organic wastes. Altogether, it is urgent to develop alternatives, more environmental friendly downstream processes to process algal biomass. The program will cover sharing of knowledge and technology in microalgal biology. The workshop will contain lectures on various aspects of microalgal cell growth and proliferation and biofuel production and role of phytoplankton in forensic science. The program participants will be educated by the expert foreign faculty Prof. Benoît Schoefs from University of Le Mans, France. The program will be organized in two modules: module 'A' tutorials followed by module 'B' experimental demonstration of research work. Course participants will learn theoretical and technical aspects of algal research with hands-on experiments. Participants will also take part with assignments and skill development sessions for motivation in algal research. The program has been approved to be "One Credit Course".

Patron

Prof. R. P. Tiwari

Vice- Chancellor

Dr. Harisingh Gour Vishwavidyalaya
(A Central University)
Sagar- 470003 (M.P.) India

Local coordinator GIAN

Prof. Devasish Bose

Department of Criminology and Forensic Science

Program Advisors

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Prof. R. A. Singh - Director, Academic Affairs

Prof. A. N. Sharma - Dean, School of Applied Sciences

Prof. R. N. Yadav - Director, Research and Development

Prof. U. S. Gupta

Prof. S. P. Vyas

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Faculty Support

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Dr. K. B. Joshi

Dr. Prashant Shukla

Dr. Navjot Kaur Kanwal

Dr. M. D. Pandey

Dr. Siddhartha Mishra

Dr. Jai Singh

Dr. Rajesh Singh Yadav

Dr. S. M. M. Simha Karna

Mr. Parwinder Kumar

Course Coordinator

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Assistant Professor,

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GIAN Portal: <http://www.gian.iitkgp.an.in>

University web: <http://www.dhsgsu.ac.in>

WHO CAN PARTICIPATE:

Students at the Under Graduate, Post Graduate and Doctoral (Ph.D.) level, Post Doctoral fellows, Faculty Members with research interest in high value compounds from microalgae and their applications in Nanobiotechnology, Pharma/chemical Sciences, Forensic Science and Bioengineering are welcome to participate in the course. Industry members with interest in algal biology especially method development, biofuel production optimization of design of solar panels, NGS and MALDITOF.

REGISTRATION FEES

Registration fee includes only study material not accommodation

• Participants from abroad	US \$ 200
• UG/PG Students/Ph.D./Post Doc	INR 1000/- (INR 500/- for SC/ST Students)
• Faculty/Scientists/ Researchers	INR 2500/-
• Participants from Industries	INR 5000/-

COURSE SCHEDULE

DAY-1: 22-11-2016 (TUESDAY)

Inaugural Session: 09:30 to 11:00AM

High Tea : 11:00 AM to 11:30AM

Session 1- 12:00 noon to 13:30 PM

High value added compounds

Lunch Break: 13:00 PM to 14:30 PM

Session2- 14:30 PM to 16:00 PM

Alternative methods to extract and harvest high value added components

Session3- 16:00 PM to 17:30 PM

Microscopic investigation of microalgae producing HVM

DAY-3: 24-11-2016(THURSDAY)

Session 1- 09:30 to 11:00AM

Biodiversity

Tea Break: 11:00 AM to 11:30AM

Session 2- 11:30AM to 13:00 PM

Light saturation of photosynthesis

Lunch Break: 13:00 PM to 14:30 PM

Session 3- 14:30 PM to 17:30 PM

Algorithms to quantify pigments using HPLC, GCMS and UV-VIS

DAY-5: 26-11-2016 (SATURDAY)

Session 1- 09:30 to 11:00AM

Solar biofuel production from microalgae

Tea Break: 11:00 AM to 11:30AM

Session 2- 11:30AM to 13:00 PM

Role of Phytoplankton in Forensic Science

Lunch Break: 13:00 PM to 14:30 PM

Session 3- 14:30 PM to 17:30 PM

Evaluation of Participants

DAY-2: 23-11-2016 (WEDNESDAY)

Session 1- 09:30 to 11:00AM

Promises of biodiesel from microalgae

Tea Break: 11:00 AM to 11:30AM

Session 2- 11:30AM to 13:00 PM

Development of microalgae cultivation and biomass harvesting systems for biofuel production.

Lunch Break: 13:00 PM to 14:30 PM

Session 3- 14:30 PM to 17:30 PM

Testing axenic culture for growth of microalgae with PCR methods

DAY-4: 25-11-2016 (FRIDAY)

Session 1- 09:30 to 11:00AM

Downstream biochemical reactions: carbon assimilation

Tea Break: 11:00 AM to 11:30AM

Session 2- 11:30AM to 13:00 PM

Stress Physiology

Lunch Break: 13:00 PM to 14:30 PM

Session 3- 14:30 PM to 17:30 PM

Evaluation of stress level by modulated chlorophyll spectrofluorometer

DAY-6: 27-11-2016(SUNDAY)

Valedictory Function

10:00 AM to 11:30 AM



ACCOMODATION:

Accommodation, if required could be arranged for the participants on payment basis. Write to us with details.

REGISTRATION PROCESS:

MHRD-GIAN is a global program where participants are requested to register online at the GIAN portal: <http://www.gian.iitkgp.ac.in>. Follow instructions at “**Course Registration Portal**” and submit login information with brief academic details. One time registration fee INR 500/- is to be paid online for registration at GIAN Portal (After registration at GIAN portal participants can select any number of courses using the same login). Participants then need to select course on ‘**Microalga as renewable high value compounds**’ from the list of courses at “**Course Registration**”. Selected participants will be informed via e-mail and they need to submit the “**Course Registration Fee**” by Demand Draft in the favour of “**The Registrar, Dr. Hari Singh Gour Vishwavidyalaya, Sagar**” to the course coordinator.

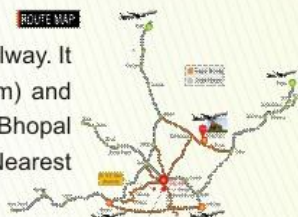
HOW TO REACH:

Sagar is the divisional head quarter and is well connected via rail and road.

Sagar railway station is registered as Saugor in Railway time table.

ROUTE MAP

Saugor station is located on Bina-Katni section of West Central Railway. It is directly connected by train to Bina (75 Km), Jabalpur (279 Km) and Jhansi (200 Km). Sagar is connected with all season roads with Bhopal (190 Km), Jabalpur (185 Km), Jhansi (200 Km), and Bina (75 Km). Nearest airport-Bhopal (200 Km), Khajuraho (215 Km).



ABOUT THE FOREIGN EXPERT FACULTY:



Professor Benoît Schoefs is Professor in Plant Physiology at the School of Sciences and Technology, University of Le Mans, France. He is the leader of the MicroMar research group of the laboratory Mer Molécules Santé. Research in the Benoît group focuses on the regulation of carbon reorientation in microalgae under stress and applications. The goal of the work is to elucidate the molecular, biochemical and cellular mechanisms involved in the reorientation and to use this knowledge in applications.

These include the production and extraction of valuable compounds and their utilization in nutrition and health problems. The team is currently involved in a number of advisory work and research projects including European and overseas partners

ABOUT THE COURSE COORDINATOR:



Dr. Vandana Vinayak is working as Assistant Professor in the Department of Criminology and Forensic Science at Dr. Harisingh Gour Central University, Sagar (M.P.), India. Her research interest include electrobiochemistry, nanobiotechnology and forensic molecular biology. Her recent research highlights includes her research projects in DBT, UGC, INUP-IIT Bombay and DST Nanomission for construction of Diatom Solar panels, PCR DNA markers for diatom; their role in forensic sciences, Barcoding algae/diatom DNA, NGS and MALDITOF.