

Introduction

This course presents a detailed understanding about science and technology of Chemical Vapor Deposition and related methods and reactors used for making thin films, single crystals, powders. This process is popular for semiconductor materials manufacturing and manufacturing of materials for addressing global challenges associated with energy/environment nexus, energy demand, generation and storage.

The Proposed Course focuses on practical applications of CVD reactors, processes, electronic & amorphous materials. The course educates and trains graduates with the academic and practical background necessary to function as chemical engineering professionals in several modern, state of the art industrial enterprises such as electronics manufacturing, advanced materials, energy, nanotechnology and bio-medical engineering. The course provides our graduates with the foundation for a successful career and enables life-long learning. Also it enhances the skills of individuals in applications of chemical kinetics & transport processes to vapor phase materials synthesis

Course Objectives

The primary objectives of the course are as follows:

- Understanding the concepts involved in the deposition of thin and thick films using various Chemical Vapor Deposition (CVD) methods.
- To apply chemical kinetics (gas phase, gas-solid and plasma), thermodynamics and transport concepts to understand and design the chemical vapor deposition process.
- To understand the nucleation and growth aspects of the vapor grown films, thin and thick films science.
- Providing exposure to practical problems and their solutions, through case studies and live examples in understanding the manufacture of thin and thick films by CVD method.

Who can Participate:

Registration is open to:

- Engineers and Researchers from manufacturing service and government organizations including R&D laboratories.
- Student at all levels (BTech/ MSc/ M.Tech/ PhD)
- Faculty from academic institutions and technical institutions.

How to Register:

Stage -1:

Web(Portal) Register:

Visit GIAN Website at the link:

<http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the blank registration form and do web registration by paying **Rs 500/-** online through **Net Banking / Debit / Credit** card. This provides him/her with life time registration to enroll in any number of the GIAN courses offered.

Stage -2:

Course Registration (Through GIAN Portal):

Log in to the GIAN portal with the user ID and password created. Click on 'Course Registration' option given at the top of the registration form. Select the Course titled "**Chemical Vapour Deposition**" from the list and click on '**Save**' option. Confirm your registration by Clicking on '**Confirm Course**'.

Selection and Mode of Payment

Selected candidates will be intimated through Email. They have to remit the necessary course fee to the Bank as per the details given below.

Account Name	PRINCIPAL UCT OU
Account Number	52198262941
Bank	State Bank of India
Branch	Osmania University, Hyderabad
IFSC Code	SBIN0020071
MICR Code	500002342

Course Fees:

Participants from abroad	USD 500
Participants from industry/ research organizations	Rs 6000/-
Participants from academic institutions	Rs 3000/-
Research Scholars	Rs 2000/-
Student participants from India	Rs 1000/-

The course fee includes instructional materials, tutorials, laboratory and computer use, free internet facility, working lunch, mid sessions tea and snacks.

Note: On request accommodation will be provided for few participants (on first come first basis) in the campus on payment. For any queries regarding registration of the course, please contact the Course Coordinator:

Last Date for Registration: 08th September 2018

About: Dr. Mahendra Sunkara, Course Faculty



Dr. Sunkara, is the Director of the Conn Center, where he directs the Center's research themes, growth, and operations. He received his doctorate in Chemical Engineering in 1993 from Case Western Reserve University in Cleveland, OH. He served as Project Engineer at Faraday Technology Inc. in Dayton OH (1993-1996). He joined the faculty at the

Univ. of Louisville's Speed School of Engineering Department of Chem Engg in 2002. He was the Founding Director of the Institute of Advanced Materials and Renewable Energy, and was appointed as the Director of the Conn Center in 2013.

Mahendra is the author of over 100 original research papers and four book chapters and holds 10 patents in the areas of nanowires and other nanoscale materials toward energy conversion and storage applications. Among his awards are a NSF CAREER Award, University of Louisville President's Distinguished Faculty Award in Research and Scholarship and Louisville Magazine's Top 25 Young Guns distinction. He serves on the editorial boards of Nanotechnology and Nanoenergy journals. He founded a startup, Advanced Energy Materials, LLC (USA) in 2010. Mahendra's primary research is in the development of such renewable energy and energy efficiency technologies as solar cells, lithium ion batteries, electrochromics, production of hydrogen from water, and process development for growing large crystals of diamond, gallium nitride, and bulk quantities of nanowires.

CHIEF PATRON

Prof. S. Ramachandram, VC, OU

PATRONS

Prof. Ch.Gopal Reddy, Registrar, OU

Prof. T. Krishna Rao, OSD to VC, OU

Prof. S. Sameen Fatima, Principal, UCE, OU

CHAIRMEN

Prof. R.Shyam Sunder, Principal, UCT,OU

Prof. E.Nagabhushan, Dean, UCT, OU

VICE CHAIRMAN

Prof.V.Ramesh Kumar, Vice principal, UCT,OU

Institute Coordinator for GIAN

Dr.V.V.BasavaRao,Dept.of Technology, UCT,OU

About GIAN Courses

MHRD, Govt. of India has launched an innovative program titled 'Global Initiative of Academic Network's (GIAN) in Higher Education, in order to garner the best international experience into our system. As a part of this, internationally renowned Academicians and Scientists are invited to augment the country's academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence.

About Osmania University

Osmania University, established in 1917, has emerged as one of the premier institutions of higher learning in the country. It was conferred with the coveted status of "University with Potential for Excellence" in the year 2012. It epitomizes the national agenda on higher education for Access, Equity and Quality through Expansion, Inclusiveness and Excellence.

The University has a vast sprawling verdant campus of 1632 acres set in picturesque and idyllic surroundings, where diversity is valued and accepted. It owns a number of buildings of great architectural elegance and variety to enhance the beauty of the campus. Osmania University is organizing seminars, short term courses and 105-Indian Science Congress on the eve of centenary year (1917-2017).

About University College of Technology(A)

The University College of Technology is one of the premier and the oldest colleges offering Chemical Engineering and Chemical Technology education in the country.

UCT is one of the campus colleges of Osmania University accorded with autonomous status. It is one of the premier institutions in the state established in the year 1969, which offers courses both at UG and PG levels including Ph.D programs and established a reputation of academic excellence progressing through innovation.

In 1954, four year degree courses were introduced leading to the Bachelors' degrees in Chemical Technology and Chemical Engineering. In 1965 it was recognized as Department of Technology. In September 1969, the University upgraded the Department of Technology to University College of Technology to form a strong academic nucleus of Chemical Engineering / Chemical Technology. In order to meet the changing requirements of the country, the B.Tech. degree courses in Food Processing and Preservation Technology and Textile Technology were started in the College during 1994-95. The college started a Two year P.G programme Under Self financing scheme in M. Tech Bio Chemical Engg & Bio Technology; M..Pharmacy, (a) Pharmaceutical Chemistry (b) Pharmaceutical Analysis & Quality Assurance under the self-financing scheme were started.

The College has been selected as Network Institution for Technical Education Quality Improvement Program (TEQIP- II) by MHRD, GOI and sanctioned an amount of Rs. 12.5 Crores. The College is also selected for Center of Excellence (CoE) with a grant of 5 Crores to enhance the research in the field of Process Intensification.

For Further Details Contact

Course Co-Ordinator

Dr. V Venkata Basava Rao

Professor in Chemical Engineering

Head, Department of Technology

University College of Technology(A)

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Telangana, India.

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**Call for Registration and Participation****Five Days GIAN Course****ON****Chemical Vapour Deposition****(14th – 21st September 2018)****by****International Faculty****Dr. Mahendra Sunkara****Director****Institute of Advanced Materials and
Renewable Energy
Department of Chemical Engineering
University of Louisville
Louisville, USA****Co-ordinator****Dr. V Venkata Basava Rao****Organized by****DEPARTMENT OF TECHNOLOGY
UNIVERSITY COLLEGE OF TECHNOLOGY (Autonomous)
OSMANIA UNIVERSITY
HYDERABAD-500007
TELANGANA, INDIA**