

**“National Conference on Chalcogenide Compounds”  
(MATERIALS, CHEMISTRY AND PHYSICS)**

**(NC<sup>3</sup>-2019 -MCP)**

**Department of Applied Chemistry**

DIAT (DU), Pune, INDIA, 411 025

March 14<sup>th</sup> -15<sup>th</sup>, 2019

**REGISTRATION FORM**

Name: Mr./Ms/Mrs./Dr./Prof. \_\_\_\_\_

Designation \_\_\_\_\_

Department/ Section \_\_\_\_\_

Affiliation \_\_\_\_\_

Address \_\_\_\_\_

Telephone: (Office) \_\_\_\_\_ (Resi.) \_\_\_\_\_

Fax \_\_\_\_\_ Mobile \_\_\_\_\_

Email ID 1) \_\_\_\_\_

2) \_\_\_\_\_

**Details of Registration Payment:**

Name of the Bank \_\_\_\_\_

Cheque/DD No. \_\_\_\_\_ Date \_\_\_\_\_

Accommodation Required YES  NO

Date: \_\_\_\_\_ Signature \_\_\_\_\_

**First and Final Announcement**



**National Conference on  
Chalcogenide Compounds  
(Materials, Chemistry and Physics)**

**(NC<sup>3</sup>-2019- MCP)**

**March, 14<sup>th</sup>-15<sup>th</sup>, 2019**

**Organized By**

**Department of Applied Chemistry**

**Defence Institute of Advanced  
Technology (Deemed to be University)  
Girinagar, Pune- 411025, India**

**VENUE: DIAT (POINTS AUDITORIUM)**

**INTRODUCTION:** The first National conference on “Chalcogenide compounds” was held in 2013 which attracted more than 200 participants and 14 invited speakers delivered top class chemistry and materials chemistry lectures. Due to grand success of NC<sup>3</sup>-2013 and NC<sup>3</sup>-2015, NC<sup>3</sup>-2017, it is decided to organize fourth NC<sup>3</sup>-2019 with a view to have 12-14 lectures with about 100 posters and a selected oral presentations by the students. Therefore, National conference on “Chalcogenide compounds ” (NC<sup>3</sup>-2019) is being organized at Defence Institute of Advanced Technology (DU), Pune. The primary objective of the conference is to bring together the expert from academic institutions, industries and research organizations devoted to various domains of advanced research in chalcogen chemistry including oxide materials and its impact in strategic sector as well as in scientific community.

**ABOUT DIAT (DU), PUNE:** The Defence Institute of Advanced Technology, (DIAT) as it is known today, came into existence as the Institute of Armament Studies in 1952 in the CME campus. In 1967, the Institute was renamed as “Institute of Armament Technology, (IAT)”, which moved to its present location at Girinagar, Pune. From relatively narrow scope of Armament Studies alone in Fifties, the role of the Institute was considerably enlarged by the Defence R&D Council in 1964 and further in 1981. On the basis of accreditation by the All India Council of Technical Education (AICTE), Pune University recognized eight courses for the award of ME degree in 1980. In the year 2000, the Institute acquired the status of a Deemed University. IAT has been renamed as DIAT w.e.f. 1st April 2006. Presently DIAT is rated at A-grade university by MHRD with NIRF ranking of 63.

**ABOUT THE DEPARTMENT:** The department of Applied Chemistry started in 1985 with the aim to impart education and training to DRDO work force in the area of high energy materials and propellants. Over the years Department has moved on to cater to the need of DRDO and civilian students in order to bring the DRDO achievements closer to our society. The Department’s aim is to contribute to our understanding of the chemical world through excellence in observational, theoretical and experimental science and to extend quantitative and other appropriate methodologies to address problems in the fields of applied chemical science. In Applied Chemistry, we are endowed with faculties who are dedicated teachers and distinguished researchers that carry out cutting-edge research in all modern areas of Applied Chemistry, as well as in inter-disciplinary areas like nanoscience and technology, high energy materials, polymer science and technology, The first PhD of DIAT (DU) was from the department of chemistry so far department has produced over 20 PhDs. and currently 15 scholar are pursuing their PhD degree. In addition to Ph.D., we provide a vibrant and creative learning environment for our more than 16 M.Tech and Master of Science (MS) students and researchers through internal training and expert lecture series. We also participate in R&D with various DRDO labs and industries. Department boasts of highest number of PhDs in DIAT as well as highest number of research publications. In recent times, Department has contributed highest revenue generation through grant-in-projects and customized course.

**ACCOMMODATION:** Accommodation will be arranged on request at DIAT guest houses and student/officers’ hostels. Request must reach us on or before 5<sup>th</sup> Mar. 2019. The accommodation charges will be borne by the participants and may be in the range of about Rs.500-700 per day per person on sharing basis.

**HOW TO REACH DIAT:** DIAT is situated at a picturesque place on the banks of Khadhakwasla Lake, after Kadhakwasla Dam on Sinhadgad Road, which is about 20 km from Pune Railway Station, 32km from Pune Airport, 18 km from Shivaji Nagar Bus Station and 15 km from Swargate Bus Station. DIAT can be reached by Pune Municipal Transport Corporation Buses, Route No. 49 from Pune Railway Station; Route Nos. 50, 51 and 52 from Shaniwar Wada via Swargate. Hired Auto Rickshaws charge approximately Rs 20/- per km. There are shared Auto Services from Swargate (near Nataraj Hotel).



### CONTACT

**Prof. P. K. Khanna,**  
Chairman & Convener, NC<sup>3</sup>- 2019  
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Defence Inst. of Advanced Tech (DU)  
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**Dr. Shaibal Banerjee**  
Secretary & Treasurer, NC<sup>3</sup>- 2019  
Department of Applied Chemistry  
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### **FOR ANY INQUIRY PLEASE CONTACT**

#### **MR. PRASAD GANESH JOSHI**

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### **M. TECH ADMISSION 2019**

#### **Current Courses Available in Department**

**M. Tech in Chemical Science and Technology with Specialization in Chemical Sc.Technology (CST) & Energetic Materials & Polymers (EMP) course is conducted by the dept. GATE qualified potential students may contact admin dept. DIAT, Pune**

Completed registration form can be sent through e-mail followed by DD to be sent by post. Limited spot registration will be permitted with prior request and confirmation.

Sr. No.	Registration	
	Participants category	Fees in Rupees
1.	Students	2000 /-
2.	Faculty and R & D Scientists	4000 /-
3.	Participants from Industry	5000 /-

### **SPONSORSHIP & EXHIBITION**

- Conference can be sponsored by offering Rs.50,000/- which will allow the sponsors to nominate 3 participants free of cost for the conference.
- Exhibitors can display their products by putting a stall of 1.5 × 1.5 meters by paying charges of Rs.25,000/-

**ABOUT PUNE CITY:** Pune was the capital of Maratha empire and is known for its rich tradition of education and culture for several centuries. Pune was realized as a strategic place from army and ammunition point of view by the British rulers. This military tradition continues today and a number of defence training, research and development laboratories have been established in and around city. Till very recently, Pune was called the “pensioners paradise” and intellectuals know it as “Oxford of the East”. The city has a well known University of Pune which is one of the premier institutes in the country imparting knowledge to thousands of students in various disciplines. The city has several R&D organizations like National Chemical Laboratory, High Energy Material Research Laboratory, Armament Research & Development Establishment, National Institute of Virology, IUCCA, NCRA and educational institutes and privately funded colleges. Pune is also well known as an Information Technology hub with companies like, Tata Consultancy, Infosys, Wipro, Cognizant, IBM and others in the IT park in suburbs of Pune. Pune is surrounded by Sahyadri hills and has many sites to visit. It is well connected by rail, road and air. The weather in March is quite pleasant and the temperature ranges to about 18 deg at night and about 30-35 deg Celsius at day time.



**THE CHALCOGENS:** Chalcogens are group VI elements from the Periodic Table which comprise of O, S, Se, Te. Compounds containing S, Se and Te have made special impact on advanced technology particularly semiconductor technology. Organo-chalcogen compounds have various advantages for advanced materials preparation e.g. their low thermal stability and complexation with transition metals makes them suitable for their application in semiconductor technology via CVD/PVD thin films methodology. The emergence of Nanotechnology has led to dedicated and focused research in nano-structured binary and ternary on metal chalcogenide semiconductors e.g. ZnSe, CdSe CdTe, PbSe, CuInSe<sub>2</sub> etc. Organic metals have also been generated through the chemistry of chalcogens. Organochalcogens have potential to be used as antimicrobial and anti-cancer agents also. Recent research has shown that many of organoselenium compounds are having anti-HIV and anti-diabetic properties. Quantum dots as well as other metal chalcogenides are of great importance to defence sector since these can lay platform to advancement in nanotechnology based devices e.g. quantum dot for decoy application, thermoelectric devices, solar cells, LED and biomedical imaging etc. The precursors are as important as the final metal chalcogenide technology & devices and therefore this conference will focus on the Chemistry, Physics and Materials from and of chalcogens to highlight their importance as precursors, for nanotechnology covering devices and their applications. The event will also cover hybrid organic and inorganic chalcogenides including metal oxides.

**ABOUT THE CONFERENCE:** The National conference on “Chemistry of Chalcogenide compounds Materials, Chemistry and Physics,” (NC<sup>3</sup>-2019-MCP), aims to bring together researchers, scientists, engineers and scholarly students to exchange and share their experiences, new ideas, and research results on all aspects of chemical technology of Chalcogen materials, chemistry, physics and to discuss the practical challenges encountered by them to handle the critical situations during preparation and studies that can lead to technology development for a range of advanced materials and products e.g. variety of semiconductors II-IV, IV-VI, I-III-VI and their hybrids with oxides etc for photonics, energy applications, and photo-catalysts. Eminent personalities will deliver plenary, key-note and invited lectures to highlight the recent advancements made in this specialized field. There will also be poster presentations by participants and oral presentations by selected authors.

### **OBJECTIVES**

- To provide a platform for sharing of knowledge among researchers in the field of chemistry and physics of metal chalcogenides and related nanotechnology topics.
- To promote understanding and partnership amongst the academia, R & D organizations and industries.
- To bring chalcogen researchers closer to defence R&D.
- To address the importance of O/S/Se/Te in Nanotechnology and future scope.

## **THEME AREAS OF CONFERENCE**

Chemistry of S, Se, Te compounds  
Chalcogenides for Defence Applications.  
Chalcogenide & Oxide Nanomaterials  
Chalcogenide QDs & their applications  
Chemistry & Physics of Chalcogenides  
Biochemistry of Chalcogens  
Toxicity of Chalcogens & Chalcogenides

## **HIGHLIGHTS OF NC<sup>3</sup>-2019**

DRDO Scientists lectures  
Invited talks by eminent Researchers  
Presentations of papers by students  
Panel discussion  
Two prizes for best poster presentations  
Two prizes for best Oral presentations

## **PATRON**

**Dr. C.P. Ramanarayanan**

Vice-Chancellor, DIAT, Pune

## **ADVISORY COMMITTEE**

Shri KPS Murthy Director, HEMRL, Pune

Dr. N. Eshwar Prasad, Director,  
DMSRDE, Kanpur

Prof. A. Nangia, Director, NCL, Pune

Dr. V. K. Jain, BARC, Mumbai

Prof. H. B. Singh, IIT, Bombay

## **ORGANIZING COMMITTEE**

Dr. P. K. Khanna, Chairman & Convener

Dr. S. Banerjee, Secretary & Treasurer

Dr. P. V. More, Member

Mr. P. G. Joshi, Member



## **TENTATIVE LIST OF SPEAKERS**

Prof. H. B. Singh, IIT, Bombay

Dr. V. K. Jain, BARC, Mumbai

Prof. J. D. Singh, IIT, Delhi

Prof. Sameer Sapra, IIT, Delhi

Dr. Priyesh More, DIAT, Pune

Dr. S. Tripathi, DMSRDE, Kanpur

Prof. P.S. Patil, Shivaji Uni., Kolhapur

Prof. Amarjeet Kaur, Delhi University

Dr. Sangit Kumar, IISER, Bhopal

Prof. S. S. Ghosh, IIT, Guwahati

Prof. B. A. Kakade, SRM Univ. Chennai

Dr. A.K. Dey, HEMRL, Pune

Dr. K.K. Bhasin, Punjab University

Prof. G.K. Mehrotra, MNNIT, Allahabad

Prof. Raja Ram Mane, Nanded University

Dr. K. Nagabhushana, IIT-B, Monash Academy



## **ABSTRACT**

An extended abstract-cum-short paper of less than two pages along with relevant figures and references should be submitted by 25<sup>th</sup> Feb. 2019. The abstract should include title of paper, name and affiliation of authors including their email address and contact numbers. The authors should mention whether the abstract is for oral or poster presentation. A book of abstracts submitted for presentations including invited lectures will be published possibly with ISSN Number. The abstracts can be submitted by email to the following id:

**Email: [banerjeess@diat.ac.in](mailto:banerjeess@diat.ac.in) or [morepriyesh@yahoo.co.in](mailto:morepriyesh@yahoo.co.in)**

## **IMPORTANT DATES**

Submission of abstract -25<sup>th</sup> February 2019

Intimation of acceptance -28<sup>th</sup> February 2019

Date of registration - 10<sup>th</sup> March 2019

Date of conference - 14<sup>th</sup>-15<sup>th</sup> March 2019