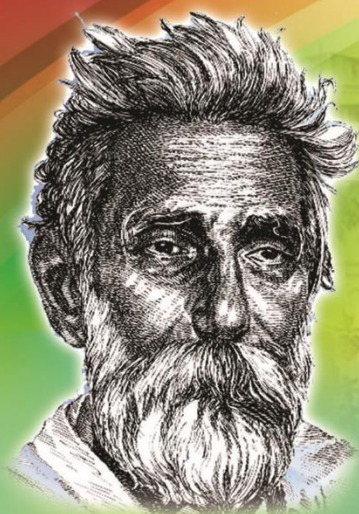


# CHEMICAL

# Warta



The first issue of this Newsletter is being published to celebrate The National Science Day- 2020

Published by

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Chemical Warta, Vol. : 1, No. : 1, Year : 2020

28<sup>th</sup> February  
2020

## Chemical Warta Arrives ...

**Prof. G.D. Yadav**  
**President**  
**Indian Chemical Society**  
**e-mail: [gdyadav@gmail.com](mailto:gdyadav@gmail.com)**



Dear Readers:

The Council of Indian Chemical Society has accepted the proposal to start a news bulletin which will give the news of interest to the Community of Chemists and Chemical Science in order to make ICS a vibrant society. I am very happy that the ICS council has accepted the name 'CHEMICAL WARTA' proposed by me. The Warta will include any news of national and international events, member's achievements, conferences, and colleges/universities to make others aware of the latest in our profession. Professor Nibedita Chakrabarti and Dr Gourisankar Roymahapatra have taken the responsibility of being Co-editors of the bulletin. This will be published online on our website.

Please do contribute to the Warta to make it attractive and readable. Chemistry related cartoons and photographs, poems and the like can also be submitted. I wish that the bulletin will be popular among chemical science lovers.

Regards,

Yours sincerely,

G.D. Yadav



## Greetings ....

### From the Honorary Secretary Indian Chemical Society

Prof. Chittaranjan Sinha  
Professor & Head, Department of Chemistry,  
Jadavpur University, Kolkata – 700 032  
e-mail: [crsjuchem@gmail.com](mailto:crsjuchem@gmail.com)



Dear Readers:

I am very happy that the Indian Chemical Society is going to publish a chemical science news bulletin ‘**CHEMICAL WARTA**’, possibly the first one in its kind published by any chemical society of India. Our president has named it ‘**CHEMICAL WARTA**’ which will include any national and international news relating to chemical science along with our member’s achievements, seminars, symposiums etc. Our council member Prof. Nibedita Chakrabarti, Principal of Victoria Institution (College), Kolkata and the very young and enthusiastic fellow Dr. Gourisankar Roymahapatra, Associate Professor of Haldia Institute of Technology have taken the responsibility of being Co-editors of the bulletin. This will be published online on our website. To write something in its very first issue, I have taken the opportunity to articulate before you about our Society activities, present status and future roadmap of our Society. Hope it will bring the current scenario of this oldest chemical society of India.

#### The Society and the activity:

Independent Indian initiative in Chemical Research had been intimately bound to the “Life and Times of Acharya Prafulla Chandra Ray” and his students. Nationalist ideology of ‘Swadeshi’ at the backdrop of freedom movement inspires Acharya P. C. Ray, the father of Indian chemistry, to organize the chemistry movement by establishing first ever Indian School of Chemistry; **Indian Chemical Society**. In order to promote the research in chemistry Indian Chemical Society (ICS) was established in **May 9, 1924** with the leadership of Acharya P. C. Ray as the founder President with other members; Professor J. C.



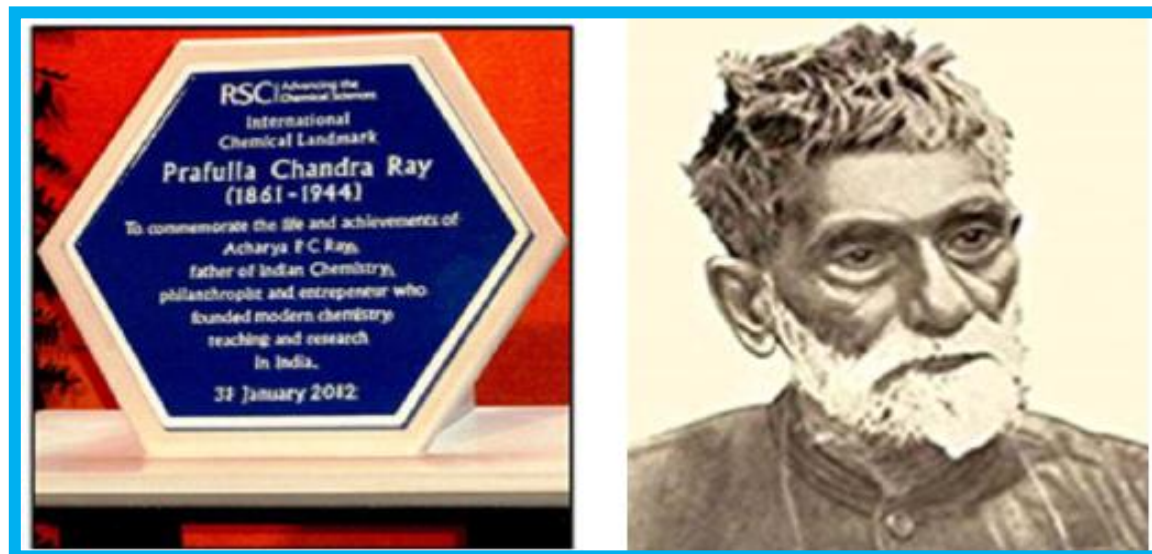
Ghosh, Professor J. N. Mukherjee, Professor S. S. Bhatnagar, Professor N. R. Dhar and many more distinguished personalities in the field of Chemistry. The first issue of the quarterly journal; **Journal of the Indian Chemical Society** (JICS) appeared in November 1924 and it received a huge appreciation from several leading organizations and personalities in foreign countries. Professor Wynne, the then President of the Chemical Society, London, cabled to Sir P. C. Ray congratulating the Indian Chemical Society for this venture. The following report published in the renowned journal “Nature (London)” was revealing:

*“The great work in chemistry which has occurred in the Indian Empire during the past ten years, had lead to the establishment of an Indian Chemical Society, the first number of the quarterly journal of the Society has now appeared. There are thirteen papers, and only one of these is published under the English names. The remaining papers are published by Indians and come from all parts of the Indian Empire. Four of these emanate from the College of Science, Calcutta, and this is as it should be, because for many years past, this Institution has been the back-bone of chemical research in India.”*

Besides, Modern Chemical research, Acharya P. C. Ray also took key interest in studying the development of chemistry of India in its past and wrote the historical book *“The History of Hindu Chemistry.”* More than seven international publishers in Germany, USA, France, UK are republishing this book even today.

Acharya Prafulla Chandra Ray, a condensed humanity and the scientific spirit of India – a fusion of sacrificial love for Country and Chemistry, served tirelessly for one cause - the establishment of Chemical Education and Research in the country and to eradicate poverty, tried to use Chemistry to establish **first pharmaceutical industry of India, Bengal Chemical and Pharmaceutical Works. Ltd;** in 1901 on spending his own earning. He was an inspiring teacher not only to Chemistry students but also to all student community. Acharya P. C. Ray was a man of real scientific tempers, a nationalistic spirit, philanthropic and a great stimulation to entrepreneurship. With funding of Acharya Ray a part of floor on Palit Building in newly established University College of Science (popularly known as Rajabazar Science College), University of Calcutta was constructed and is serving as the Office of Indian Chemical Society. In 2011, the International Year of Chemistry and 150<sup>th</sup> Birth Anniversary of Acharya

Ray, the Royal Society of Chemistry decided to honour Ray's memory by establishing an *International Chemical Landmark Plaque* in Presidency College, the first-ever outside Europe.



The inscription reads as follows: *'To commemorate the life and achievements of Acharya P. C. Ray, father of Indian Chemistry, philanthropist and entrepreneur who founded modern chemistry teaching and research in India'*.

In the global perspective society is communicating the world of chemistry through the monthly publication, the **Journal of the Indian Chemical Society (JICS)** since its inception and is also trying to act as nodal agency to popularize chemistry among the student community by publishing **“Education in Chemical Science and Technology”** since 2013. The journal publishes current research in chemistry and related fields in regular issue and also in special issues. The Society has created several Endowment Awards for Senior Scientists and Convention Awards for Young Scientists. Currently, the Society is organizing students' competition in the school level. Recently, Society has published a book entitled, **“Glimpses of Acharya P. C. Ray's Work in Chemical Science” (2019)** authored by illustrious inorganic chemist, Professor Animesh Chakravorty ([https://en.wikipedia.org/wiki/Animesh\\_Chakravorty](https://en.wikipedia.org/wiki/Animesh_Chakravorty)).



“**Chemical Warta**” is the new addition with enthusiastic support of dynamic leadership of our new president Padma Shri Prof. G. D. Yadav. It is coming as soft form of News Bulletin of the society as quarterly issue. In near future it will be a monthly web chemistry magazine to feed the children and to fill up the gap between teaching form and research direction.

### **The Council:**

Regular activity of the Society is monitored by the Council, an elected body of the good standing fellows of the society. There are five zones (Head Quarter, East, West, North and South). An application to the society for members is available in the Website ([www.indianchemicalsociety.com](http://www.indianchemicalsociety.com)). The Council consists of elected President, two Vice-Presidents, one Treasurer; all former Presidents are Advisor to the Society and three members in each zone. Three elected Editors are also members of the Council. All the branches elect one branch representative as Vice-President to the Society. The Council members elect one from the Head Quarter as Asst. Secretary to the Society. There are 33 Council members in the Society at present. The President has liberty to invite any academician to the Council. Nominee from the Ministry of Science and also from Industry remain vacant. The Office Head Quarter is at the part of the 2nd floor of Palit Building, University College of Science & Technology, Rajabazar Campus, University of Calcutta. There is six full time staff at present and Dr. Rahul Bhattacharya is serving as Executive Officer of the Society.

### **Membership and Funding:**

The Society has good standing 3000 (approx.) fellows all over the country and few are from abroad. Membership of any eligible person with knowledge in Chemical Science, Engineering, and Technology may apply for fellowship. Fellowship form is available from the Society Website. The Council in its meeting will review the application and will approve for Fellowship and one can write FICS abbreviation with his name as fellow of the Society. Every member has voting right. The membership fees are the earning of the Society. In last four years, the Society does not receive any funding support from the Govt or Non-Govt agencies. The sailing of the journal (JICS) to the libraries of the Colleges, Universities and Research institutes is the only earning source. The Society has a Press on contract basis for last four decades and the journals, periodicals are published on ‘No loss, no Profit’ basis. The





journal is peer reviewed, Scopus indexed, UGC-CARE listed journal. In the last four years the sixteen special issues of the Journal of the Indian Chemical Society has added extra prestige in the scientific area.

### **Future:**

Acharya P. C. Ray served tirelessly for one cause - the establishment of Chemical Education, Research and Chemistry based Industry in the country to eradicate poverty. His voice, “**Science can afford to wait SWARAJ cannot.**” catalyses the freedom movement which is the true spirit in flesh and blood and to realize his dream “-- *a dream, ----, a time would come when modern India would also be in a position to contribute her quota to the World’s stock of Scientific knowledge---*” the Indian Chemical Society spends every second. Although there are some financial problems, official hegemony still, we ‘dream’ for ‘**Acharya Bhavan**’ to be established on its own land of the Society. One of the prestigious international publishers is sharing with the Society to publish our Journal from early next year and I dream the journal will breathe in global space with high impact. “Every future is brighter than past.” We do hope brighter future to the Society. Many youngsters, children of our motherland will come forward in future to uphold the scientific spirit of Acharya Ray serving the Society with care and love.

Regards,

Yours sincerely,

Chittaranjan Sinha

## **Historical Background of the Foundation of Indian Chemical Society**

**Professor D C Mukherjee**  
**Advisor, Indian Chemical Society**



The idea of creating an all India Chemical Society was originated in a private conference of three illustrious Indian chemists like Professor J. N. Mukherjee, Professor J. C. Ghosh and Professor Shanti Swaroop Bhatnagar, while they were working in the University College, Chemical Laboratories in London in early 1920s. They could foresee the difficulties of the Indian chemists who were working under extreme hardship, and very rightly felt that the chemists of our country needed a journal of their own for publishing the results of their research work and for this purpose they must have a Society of their own. Their cherished dream came to reality after their return to India with the foundation of Indian Chemical Society on May 09, 1924 with Acharya Prafulla Chandra Ray, the doyen of chemical sciences in India, as the President and Professor J. N. Mukherjee, an eminent scientist in the field of physical chemistry and soil science, as the Honorary Secretary. Many of the distinguished personalities in the field of chemical sciences of that time in India took active interest in nurturing the new born Society as evident from the following composition of the first Executive Council of the Society:

Indian Chemical Society is thus one of the oldest premier national scientific organization, next in age only to Asiatic Society, Indian Association for the Cultivation of Science and Indian Science Congress Association.

To begin with, the Society with its Office and Library was housed in two rooms in the 2<sup>nd</sup> floor of Sir Tarak Nath Palit Building in the premises of the University College of Science and Technology (92, Acharya Prafulla Chandra Road), Kolkata-700 009. These two rooms were constructed with a generous donation (Rs.10, 000/-) to the University of Calcutta by





Acharya Prafulla Chandra Ray, and the whole space was rented to the Society at a token amount of Re.1/- per month. The Society is still located at this place. This is in short the glorious historical background that led to the foundation of Indian Chemical Society.

**Composition of the first Executive Council of the Society:**

President	Sir P. C. Ray, KT., C.I.E., Ph.D., D.Sc.
Vice-Presidents	Gilbert. J. Fowler, D.Sc., F.I.C. J. L. Simonsen, D.Sc., F.I.C., F.A.S.B. E. R. Watson, M.A., D.Sc.
Secretary	J. N. Mukherjee, D.Sc.
Treasurer	P. C. Mitter, M.A., Ph.D.
Editors	N. R. Dhar, D.Sc., F.I.C., Dr.es.Sc. A. N. Meldrum, D.Sc.

**Members:**

H. E. Annett, D.Sc.	H. K. Sen, M.A., D.Sc., D.I.C.
S. S. Bhatnagar, D.Sc.	K. G. Naik, D.Sc.
J. C. Ghosh, D.Sc.	A. R. Normand, Ph.D.
R. L. Datta, D.Sc., F.R.S.E.	R. N. Sen, M.A., M.Sc.,
B. Dey, D.Sc., F.I.C.	B. K. Singh, D.Sc.
D. D. Karve, Ph.D.	B. H. Wilson

The Society started its activity with the publication of a quarterly journal (Journal of the Indian Chemical Society). The first issue of the quarterly journal appeared in November, 1924 and this received warm appreciation from several leading organizations and personalities of other countries. Professor Wynne, the then President of the Chemical Society, London, wrote to Sir P. C. Ray congratulating the Indian Chemical Society for this venture. The following report published in the renowned journal “Nature (London)” was enlightening:



*“The great work in chemistry which has occurred in the Indian Empire during the past ten years, had led to the establishment of an Indian Chemical Society, the first number of the Quarterly journal of the Society has now appeared. There are thirteen papers, and only one of these is published under the English names. The remaining papers are published by Indians and come from all parts of the Indian Empire. Four of these emanate from the College of Science, Calcutta, and this is as it should be, because for many years past, this institution has been the back-bone of chemical research in India.”*

In reply to this congratulatory message, Acharya P C Ray wrote:

*“More than 40 years ago, while a student at Edinburgh, I almost dreamt a dream that God willing, a time would come when modern India would also be in a position to contribute her quota to the world’s stock of scientific knowledge and it has been good fortune to see my dream materialize”*

## Welcome Our New President... Padma Shri Professor G D Yadav

When Professor G D Yadav was asked for his reaction on this great news, that 11 Indian institutes make it to world's top 100 list, and his own Institute of Chemical Technology (ICT-Mumbai) has got the 73<sup>rd</sup> place and 8<sup>th</sup> among Indian institutes, ([www.hindustantimes.com](http://www.hindustantimes.com), Feb 26, 2020) in the list, he is perhaps the happiest person and would like to see his many more accolades for ICT. The country should be proud of ICT. They only receive salary grant from Govt. and have miles to go. Under the leadership of Professor G. D. Yadav, as Vice Chancellor, ICT has established two additional campuses, with unprecedented support from Indian Oil Corporation and Government of Maharashtra. As far as the role of Professor Yadav is concerned, he believes that it is a team work and it is like playing as the Captain of the team, making a century and winning a tough match. Coincidentally his 100<sup>th</sup> Ph.D student will submit her thesis in this week. It is the first for any faculty member in the history of ICT. Professor G D Yadav is proud of ICT, his Alma Mater which provided him this opportunity as a student, faculty member and then as a Leader. Let it continue to break more records. We sincerely believe that it will be achieved.



Ganapati Dadasaheb Yadav, born on 14 September 1952, at Kolhapur district, Maharashtra, India, graduated in chemical engineering in 1974 from UDCT, University of Mumbai and started his career at the same institution as a faculty member. Simultaneously, he continued his doctoral studies under the supervision of renowned chemical engineer and teacher, Padma Bibhushan Prof. M. M. Sharma, to secure his PhD in 1980. After completing his PhD, Dr. Yadav worked, University of Loughborough (1980-81), Bombay Oil Industries Ltd, Mumbai (1982), University of Waterloo, Canada (1982-86) and came back to UDCT, University of Mumbai as Reader in Chemical Engineering to serve his own institute,



which turns to a University, Institute of Chemical Technology (ICT Mumbai) under his leadership. He served as the vice chancellor of the Institute of Chemical Technology, Mumbai (erstwhile UDCT) from 2009 until November 2019. Now he is working there as the Emeritus Professor of Eminence. He has received numerous honours and distinctions for his path-breaking contributions to green chemistry and engineering, catalysis science and engineering, chemical reaction engineering, nanotechnology and energy engineering. The Government of India awarded him the fourth highest civilian honour of the Padma Shri, in 2016, for his contributions to science and engineering. Prof. Yadav's contributions to development of the Chemical Engineering profession in India are incomparable. During his tenure as the President of the IChE, he re invigorated the body by incorporating 51 national awards through endowments. We are happy to get Prof. Yadav as the new president of India's oldest chemical society. He will work as the president of Indian Chemical Society from 2020-2022. Being the senior fellow and advisor of the Council, I welcome Prof. Yadav to the Council and wish him best success. I have enough believe on him that our Society will reach a new milestone under his leadership.

With Best Wishes,

Prof. Mahesh Chattopadhyay

Advisor, Indian Chemical Society



## January Issue

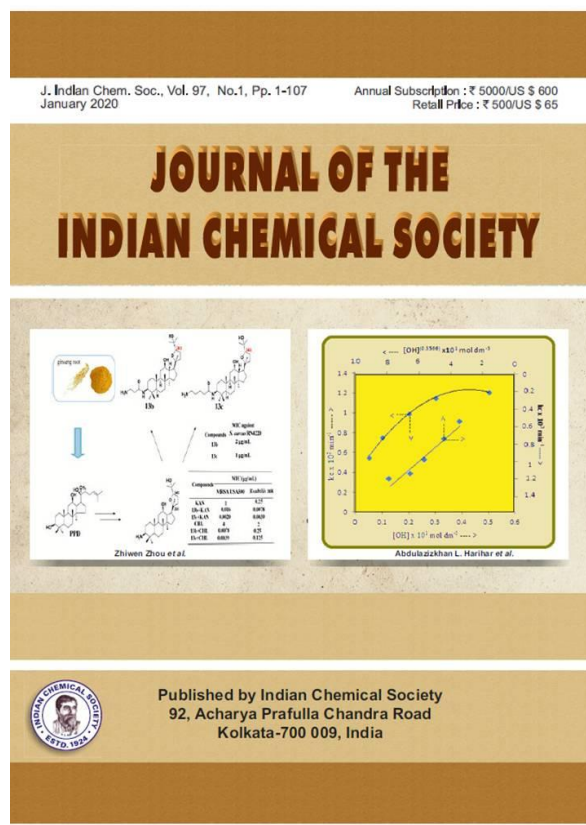
### J. Indian Chem. Soc., 2020

January 2020 issue of the Journal of the Indian Chemical Society consists of eleven original research articles in four different sections: three articles in Inorganic Chemistry Section; four articles in Organic Chemistry Section; two each in Analytical Chemistry and Environmental Chemistry Sections of 107 pages.

Two cover page articles are terpenoid derivatives as antibacterial agents published by **Zhou *et al*** from China and Ruthenium(III) catalysed oxidation of anti-cholinergic drug

hyoscinebutylbromide by diperiodatocuprate(III) in alkaline medium by **A. L. Harihar *et al*** from Karnataka, India.

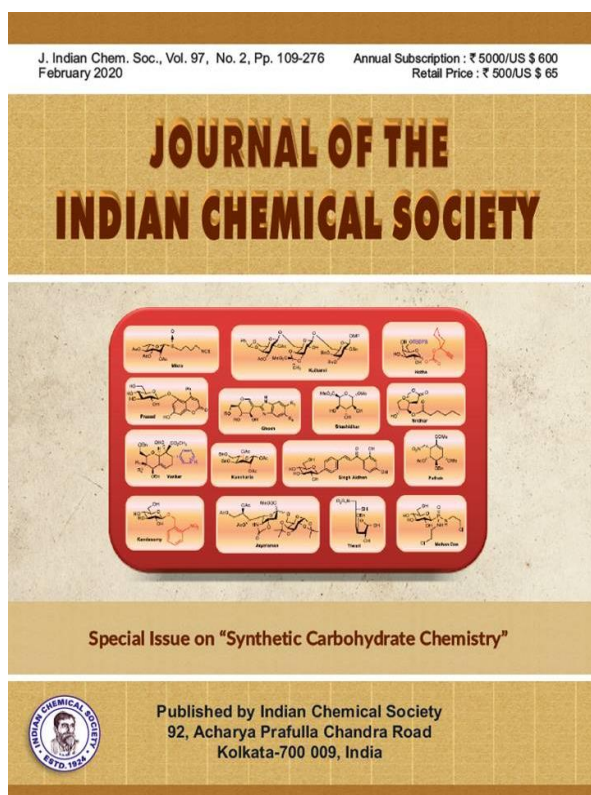
M. Asnaashariisfahani *et al* from Iran reported the antibacterial activity of chitosan-PVAnanocomposite hydrogen beads with ZnO. H. Quershi *et al* from Pakistan published a mini review work on phytochemistry of *Broussonetis papyrifera* and. G. Rigane *et al* from Tunisia reported microwave assisted extraction of hydroxytyrosol. Green synthesis of dinitro aryl ether compounds was reported from China. Four other papers are published from India. These are by A. K. De *et al* reported on the Cr(VI) resistant bacteria; N. Agrawal *et al* from Uttar Pradesh also reported analgesic and anti-inflammatory activity of thiazolidin products. A mini-review of Md. F. Hossain published on the use of POCl<sub>3</sub>-PCl<sub>5</sub> mixture as reagent. P. Paul *et al* developed an analytical method for the characterization of urinary stones while M. K. Deb *et al* described seasonal variation and health impacts of seasonal aerosols. Thus first issue is truly shaped as an international chemistry journal of high repute.



## Special Issue on - “Synthetic Carbohydrate Chemistry” J. Indian Chem. Soc, February 2020

The special issue (February, 2020) on the “Synthetic Carbohydrate Chemistry” is an attempt to highlight the activities of some of the Indian research groups involved in carbohydrate related research. The Guest Editor of this special issue was **Prof. Tanmaya Pathak** from Indian Institute of Technology, Kharagpur. All articles are available (open accessed) at [https://indianchemicalsociety.com/journal/new\\_sjournal](https://indianchemicalsociety.com/journal/new_sjournal)

In this special issue, **five review articles** and ten original research articles covering mostly synthetic applications of carbohydrates are included. Singh Aidhen and co-workers revisit glycosylated chalcones as promising chemical scaffolds in medicinal chemistry. The review by Prasad and co-workers compiles information on the biochemically synthesized glycosylated coumarins, which are potential drug candidates and have other biological applications. Jayaraman and co-workers review the expanding facets of trans glycosylations as a powerful methodology in glycoside synthesis. Glycosciences covering glycoconjugates, glycolipids and glycol targeting are reviewed by Mohan Das and co-workers. Shashidhar and co-workers highlights the potential of myo-inositol, a molecule involved in various cellular processes, as a starting material for the preparation of natural products. Vankar and co-workers report the stereoselective synthesis of sugar-fused C-aryl-carbasugar derivatives via Diels-Alder reaction between galactal- and glucal-derived terminally unsubstituted dienes and trisubstituted olefins. The synthesis of sugar derived benzimidazoles has been reported by Ghosh and co-workers  $\text{FeCl}_3$  catalyzed reactions of glycal-2-carboxaldehydes and o-phenylenediamine or its derivatives has been





used to prepare this class of antimicrobial compounds. Tiwari and co-workers synthesize a series of glycosylated  $\alpha$ -aminothiols by employing TBAB/Et<sub>3</sub>N-catalyzed ring opening of thiirane ring of D-glucose-derived 5,6-anhydro-3-O-benzyl-1,2-O-isopropylidene- $\alpha$ -D-glucofuranose with a wide range of amines. Selective deprotection of photolabile 2-nitrobenzyl acetals at anomeric position in the presence of a wide variety of protecting groups using continuous flow photo-reactor (UV radiation of 355 nm) in methanol-water is achieved by Kandasamy and co-workers. Sridhar and co-workers describe a concise and stereoselective approach for the total synthesis of (+)-secosyrin and (+)-syribuin 1 from an easily available starting material 3,4-di-O-benzyl-D-xylal. Kancharla and co-workers report a three-step strategy for the synthesis of L-hexoses, antipodes of the common hexoses from the commercially available glycals. The preparation of novel glycosylated analogues of sulforaphane, a bioactive natural product is accomplished by Misra and co-workers. D-Glucosyl and L-rhamnosylsulforaphane derivatives are obtained from the corresponding glycosylthiols. Appropriately protected trisaccharide repeating unit of *Cobetia pacifica* KMM 3878 O-sulfated polysaccharide is synthesized by Kulkarni and co-workers. Hotha and co-workers report a minimal protection based glycosylation strategy by eliminating multiple steps for the glycosyl donor synthesis. Pathak and co-workers establish a synthetic strategy for the preparation of enantiopure, densely functionalized carbocycles from vinyl nitro-modified carbohydrates.

**LIFETIME ACHIEVEMENT AWARD, 2019**

**CONFERRED ON**

**Professor Bidyendu Mohan Deb, FNA**

Members of the Council and Fellows of the Indian Chemical Society feel highly honoured to felicitate Professor Bidyendu Mohan Deb in recognition of his lifetime achievement in teaching and research in the field of Chemistry in general and Theoretical Chemistry in particular.

Professor Deb obtained M.Sc degree from the University of Calcutta, Kolkata. Subsequently, he joined the research group of Professor S. R. Palit at the Indian Association for the Cultivation of Science and after a year, he moved to the Mathematical Institute, University of Oxford on a Commonwealth Scholarship from where he received the Diploma in Advanced Mathematics. Continuing at the institution, he did his doctoral research under Charles Coulson, a pioneer of quantum theory of matter, to obtain DPhil in Mathematics.



**Felicitations of Professor B M Deb**

**November 14, 2019, Raipur, India**

Professor Deb joined the the Indian Institute of Technology, Mumbai as faculty. In 1971, he was appointed as an Assistant Professor at the Birla Institute of Technology and Science, Pilani but after one year, he returned to IIT Mumbai where he spent a decade serving

as an Assistant Professor (1973–78) and as a Professor (1978–84). Professor Deb then moved to Panjab University as the Professor of Theoretical Chemistry in 1984 and rendered dedicated service for two decades. After retirement, he moved to S. N. Bose National Centre for Basic Sciences, Kolkata as ISRO Vikram Sarabhai Research Professor. Presently he is serving as the INSA Senior Scientist and Honorary Scholar-in-Residence at Visva-Bharati University. During his long tenure of his academic activities, he has developed a versatile model of molecular geometry highlighting the role of electronuclear attractive force and the highest occupied molecular orbital in determining molecular shapes. He has investigated the applicability of the concept of internal stresses for studying molecules and solids and has related it to the other fundamental approaches such as density-functional theory and quantum fluid dynamics. One of the early pioneers of the Electron Density Theory in Chemistry, Professor Deb's main focus was on developing the foundations for a possible density-based alternative quantum mechanics bypassing the Schrödinger equation and the many-electron wave-function. He developed a single time-dependent equation (the Deb-Chattaraj or DC equation) for the direct calculation of electron density, an approach which is different from the usual density functional theory.

The outstanding research contributions to the field of Theoretical Chemistry made by Professor Deb has received wide appreciation from the academic world and earned him several awards and distinctions. To mention a few, he was awarded the Shanti Swarup Bhatnagar Prize, and elected a Fellow of the Indian National Science Academy (FNA). He also received the Jnan Chandra Ghosh Endowment Award of the Indian Chemical Society. A dedicated academician, Professor Deb has contributed significantly to the development of Chemical Education and Research in the Country. Professor Deb has built up a vibrant school of chemists and inspired a large number of students and colleagues who are carrying the torch of his mission.

The Indian Chemical Society sincerely wishes Professor Bidyendu Mohan Deb a long peaceful life with sound health and continuous academic activities for the advancement and propagation of scientific knowledge.



**LIFETIME ACHIEVEMENT AWARD, 2019**  
**CONFERRED ON**  
**Professor Gautam Radhakrishna Desiraju, FNA**

Members of the Council and the Fellows of the Indian Chemical Society feel highly honoured to felicitate Professor Gautam Radhakrishna Desiraju in recognition of his lifetime achievement in teaching and research in the field of Chemistry in general and Crystal Engineering in particular.

Professor Desiraju (born, Madras, 1952) obtained BSc degree (1972) from the St. Xavier's College, Bombay, and PhD degree (1976) from the University of Illinois at Urbana-Champaign, where he worked under the supervision of Professor David Y. Curtin and Professor Iain C. Paul.



**Felicitation of Professor G Desiraju**

**January 24, 2020, Kolkata, India**

Professor Desiraju is a structural chemist who has been in the Solid State and Structural Chemistry Unit of the Indian Institute of Science, Bangalore, India since 2009. Prior to this, he had been in the University of Hyderabad for 30 years. He has played a major role in the development and growth of the subject of Crystal Engineering. He is noted for gaining acceptance for the theme of weak hydrogen bonding among chemists and crystallographers.

His books on Crystal Engineering (Elsevier, 1989; World Scientific, 2011) and the weak hydrogen bond in structural chemistry and biology (OUP, 1999) are particularly well known.

Professor Desiraju is one of the most highly cited Indian scientists with more than 450 research papers, 50000 Scopus citations and H-index of 88. The outstanding research contributions to the field of Crystal Engineering made by Professor Desiraju has received wide appreciation from the academic world and earned him several awards and distinctions. To mention a few, Professor Desiraju was awarded with the Alexander von Humboldt Forschungspreis and the TWAS award in Chemistry.

Professor Desiraju's contribution to the subject of Crystal Engineering has focus on the concept of the Supramolecular Synthon. The Supramolecular Synthon concept is now widely used by crystal engineers in the design of molecular crystals and pharmaceutical co-crystals, which are important from scientific and commercial viewpoints. Crystal Engineering is effectively like supramolecular synthesis in the solid state, and there is a direct analogy between the supramolecular synthon of Professor Desiraju and the molecular synthon that was proposed for organic synthesis by Professor E. J. Corey. Professor Desiraju has guided the PhD work of around 50 students and has edited three multi-author books in Solid State and Supramolecular Chemistry. He is a member of the Editorial Advisory Boards of *Angewandte Chemie* and *Chemical Communications*, *Accounts of Chemical Research* and a former member of the Editorial Advisory Board of the *Journal of the American Chemical Society*. He is the former President of the International Union of Crystallography and a champion of the Asian Crystallographic Association. He has also received the Honorary Doctorate degree of the Universidad Nacional de Córdoba, Argentina and of the Rayalaseema University, Kurnool. He was awarded the Acharya P. C. Ray Medal (2015) of the University of Calcutta

for innovation in science and technology. He was awarded the ISA medal for science of the University of Bologna for the year 2018.

Presently, Professor Desiraju is the Chairman of the Research Councils of the National Chemical Laboratory, Pune, and the Indian Institute of Chemical Technology, Hyderabad, as well as the Chairman of the Council of the Bose Institute, Kolkata.

A dedicated academician, Professor Desiraju has contributed significantly to the development of Chemical Education and Research in the country. Professor Desiraju has built up a vibrant school of chemists and inspired a large number of students and colleagues who are carrying the torch of his mission.

The Indian Chemical Society sincerely wishes Professor Gautam Radhakrishna Desiraju a long peaceful life with sound health and continuous academic activities for the advancement and propagation of scientific knowledge.



Group Photo after the felicitation programme at University Convention Hall, Calcutta University:

**From left to right:** Prof. Sudip Kr. Das, Prof. Tpas Kr. Hazra, Prof. Ranjit K. Verma, Prof. S. K. Talapatra, Prof. G. D. Yadav, Prof. G. Desiraju, Prof. D. C. Mukherjee, Prof. Uday Bandyopadhyay, Prof. Bani Talapatra (24<sup>th</sup> January, 2020 at the Rajabazar Science College Campus)



**Special Lecture: Delivered  
by Professor Tapas Kr. Hazra**

**On  
Chronic inflammation and impaired DNA repair-a double whammy for  
neurodegenerative diseases**

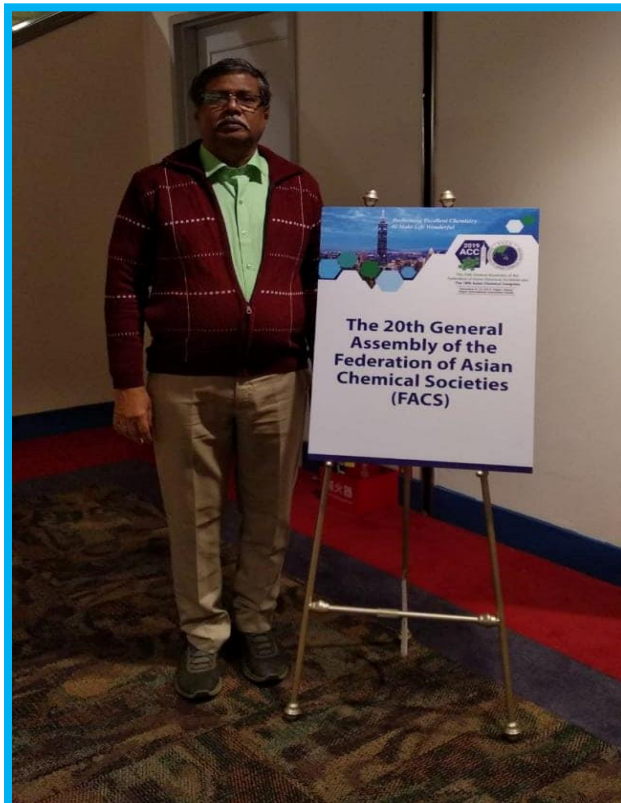
Prof. Tapas K. Hazra has a broad background in Biochemistry, Cell and Molecular Biology, with specific training and expertise in DNA repair. He is now working as a Professor at the Department of Internal Medicine, Division of Pulmonary and Critical Care Medicine, University of Texas Medical Branch, Galveston, TX 77555. He has more than 25 years of research experience (with 90 peer-reviewed papers, h-index of 47, and 11 book chapters) in molecular and cellular biology, free radical biology, and particularly in the field of DNA repair and mutagenesis.

Several of our studies were highlighted as Cover Pages, Perspectives or Paper of the Week (See Contributions to Science, C.1).

The major focus of Professor Hazra is to establish the preferential repair of oxidative genomic damage and DNA strand breaks in the transcribed genes. His laboratory was the first to report preferential repair of oxidative genomic damage both in vitro and in vivo.



Indian Chemical Society arranged a special talk of Professor Hazra in front of a scientific gathering on 24<sup>th</sup> January, 2020 at the University Convention Hall, University of Calcutta, and honor him as the Fellow of the Indian Chemical Society (FICS).



**Prof. D. C. Mukherjee (President of ICS) and Prof. Sudip Kumar Das (Treasurer of ICS) participated in the 20<sup>th</sup> General Assembly of the Federation of Asian Chemical Societies (FACS) on 058<sup>th</sup> December 2019 at Taipei, Taiwan.**







## Activities of the various Chapters

### Jalandhar Chapter

First meeting of **Indian Chemical Society-North Branch** was held at **NIT Jalandhar** on 13-02-2020 at 05:00 p.m. Prof. Chittaranjan Sinha, Hony. Secretary of ICS was invited to attend the meeting as a special guest. Executive committee of the ICS-North Branch was constituted with 12 elected members under the Chairmanship of Dr.J.K.Ratan. The members of the Executive Committee discussed the various activities to be conducted by ICS-North Chapter in the current year. Dr.J.K.Ratan, Chairman of ICS-North Branch apprised the Hony. Secretary about the success of CHEMBIOEN-2020 – An International Conference on Chemical, Bio and Environmental Engineering, which was organized with Journal of the Indian Chemical Society as publication Partner. All the efforts were made during the conference to popularize the ICS by depicting its name and logo on the banners, standies, writing pads, certificates, registration materials, proceedings and brochures etc. Over 200 participants from various parts of India and abroad attended the conference. Dr. Chittaranjan Sinha appreciated the efforts of Organizing Committee of CHEMBIOEN-2020 to keep the flag of ICS high. NIT Jaipur and IIT Roorkee has proposed to conduct the CHEMBIOEN at their places in 2021 and 2022, respectively. In the end, Dr.J.K.Ratan, Chairman of ICS-North Branch expressed his sincere thanks to Prof. G.D. Yadav, President of ICS for his motivation to make the ICS more active.

### CHEMBIOEN - 2020

CHEMBIOEN – 2020 – An International Conference on Chemical, Bio & Environmental Engineering was jointly organized by Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar and Indian Chemical Society during February 13-14, 2020 under Technical Education Quality Improvement Programme (TEQIP-III). CHEMBIOEN-2020 aimed to provide a joint platform to Chemical, Bio and Environmental Engineers, to come together, to deliberate the ongoing industrial and societal





engineering issues, and thereby generate solutions to deal with them. Dr. SJS Flora, Director, National Institute of Pharmaceutical Education and Research (NIPER) was the Chief Guest of the inaugural ceremony. During the inauguration ceremony, Prof. LK Awasthi told that Chemical, Bio and Environmental Engineer are complementary to each other, and they should really join hands to tackle the local environmental issues of water pollution. Over 200 selected papers were presented during CHEMBIOEN-2020. The academicians and researchers from eminent institutes of United Kingdom, Canada, Japan, Saudi Arabia, Abu Dhabi, South Africa, Nepal and India shared and presented their recent research, case studies and innovative

technologies during the two days of the conference. A total of six plenary talks, eight invited talks and 18 parallel technical sessions were arranged during the conference.

## Tamil Nadu Chapter

The ICS, Tamil Nadu branch with its active members has conducted Training programs, Symposia and Special Invited Lectures by eminent scientists in the past for the benefit of UG, PG & Research scholars as well as the faculties of Chemistry and Allied Sciences. These include two **‘One day Hands on Training on Water Analysis’** at Stella Maris College, Chennai and a **‘One day Symposium on Chemistry and Environment’** at The New College, Chennai. In addition, the branch also organized two **‘Special Invited Lectures’** by an eminent scientist from Du Pont R & D Laboratory, Delaware, USA – one at Stella Maris College and the other at Ramakrishna Mission Vivekananda College, Chennai.

In Aug. 2018, the Tamil Nadu branch has organized a **‘One day Symposium on Chemistry – Biology Interface’** in association with the Entomology Research Institute, Loyola College, Chennai that has been attended by the then President and the Honorary Secretary of the ICS.

In Feb. 2020, two **Special Invited Lectures** by Prof. P. Kuppusamy from Dartmouth Medical School, USA have been organized in association with the Royal Society of Chemistry, South India Section – one at Stella Maris College and the other at Sri Ramachandra Institute of Higher Education & Research (Deemed University), Chennai.

On March 2<sup>nd</sup>, a **‘One day Symposium on Chemistry and Industry’** will be organized in association with the Royal Society of Chemistry, South India Section at The New College, Chennai.

## Bhagalpur Chapter

Bhagalpur Chapter of ICS Kolkata is actively engaged in scientific activities. On 13.12.2019 a meeting of the Chemistry teachers of the University was held under the chairmanship of Dr Ashok Kumar Jha. The speakers discussed the science for the society on this day which was followed by the garlanding of the photo of Acharya P.C. Ray in the office. On 05.2.2020 a number of medicinal plants have been planted in the garden named after Acharya P.C. Ray garden and a special lecture was delivered by Prof. Jyotindra Choudhary. On 12.2.2020 Dr. Raghendra Thakur of DAE Bangalore visited office and gave experimental tips to research scholars in the Department. Earlier in 2019 on 14th September the chapter organized a National Seminar in which Prof. C. Sinha, Secretary I.C.S Kolkata and Prof. D. C. Mukherjee, President, I.C.S had delivered their lectures.

## Raipur Chapter

Inaugural ceremony of Indian Chemical Society, Raipur Chapter, was organized on 25<sup>th</sup> April 2019 in Sir C V Raman Hall of the Pt. Ravishankar Shukla University, Raipur, Chhattisgarh. The Local Chapter was inaugurated by Professor Chittaranjan Sinha, Honorary Secretary, Indian Chemical Society. Welcoming the Chief Guest and other dignitaries, Prof. Kallol Ghosh, Convener, local Chapter presented the objectives of the Local Chapter of Indian Chemical Society and future plan of action. Prof. C R Sinha delivered his speech on the History of Indian Chemical Society and the contribution of Acharya Prafulla Chandra Ray. Large number of students and faculty members of Pt. Ravishankar Shukla University, IIT Bhilai and Guru Ghasidas University, Bilaspur had attended the program.





## 56<sup>th</sup> Annual Convention of Chemists 2019&

### International Conference on Recent Trends in Chemical Sciences

The 56<sup>th</sup> Annual Convention of Chemists and International Conference on Recent Trends in Chemical Sciences were hosted by School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur and co-hosted by Govt. Nagarjuna P.G. College of Science, Raipur under the aegis of Indian Chemical Society, Kolkata during November 14-16, 2019.

Following are the main features of the conference

#### 1. Plenary Lectures: 2

Delivered by Eminent Scientists: **Prof. Kimitaka Kawamura**, Chubu Institute of Advanced Studies, Chubu University, Japan and **Prof. Daniel R. Talham**, University of Florida, USA.

#### 2. Endowment Lectures: 10

Delivered by Eminent Scientists from all over the country

#### 3. Special Lectures: 2

- i. **Prof. B. M. Deb** (Life Time Achievement Award), Viswa Bharti Shanti Niketan, West Bengal
- ii. **Prof. G. D. Yadav**, Institute of Chemical Technology, Mumbai

#### 4. Special Lecture on International Year of Periodic Table: 2

- i. **Prof. Dulal Chandra Mukherjee**, President, Indian Chemical Society
- ii. **Prof. Sushanta Lahiri**, Saha Institute of Nuclear Physics, Kolkata

#### 5. Invited Lectures-51 (In the Parallel Sessions)

All the five technical sessions (Physical Chemistry, Organic and Biochemistry, Inorganic Chemistry, Industrial and Applied Chemistry, and Analytical and Environmental Chemistry) were conducted under the supervision of respective scientists-in-charge. Around 200 delegates including council members, invited speakers attended this conference. Large number of research students and teachers presented their work in the form of oral and poster presentation. Around 250 postgraduate students and teachers of Pt. Ravishankar Shukla University and different affiliated colleges also participated. Various scientific papers were presented in different technical sessions including poster sessions by the participants from all over the country.



**Inauguration of 56<sup>th</sup> Annual Convention of Chemists 2019**



**During the National Anthem at 56th Annual Convention of Chemists 2019**





**Felicitation of Shri Umesh Patel, Hon'ble Minister of Higher Education and Science and Technology Govt. of Chhattisgarh at Inaugural Programme**



**Felicitation of Prof. K. L. Verma, Vice-Chancellor of Pt. Ravishankar Shukla University, Raipur at Inaugural Programm**





## Photo Gallery of 56<sup>th</sup> Annual Convention of Chemists 2019



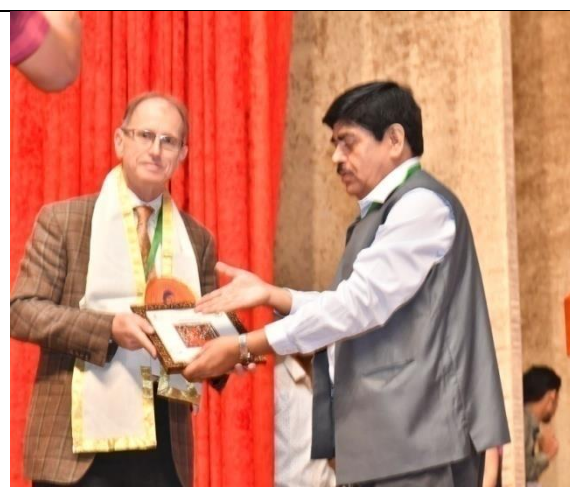












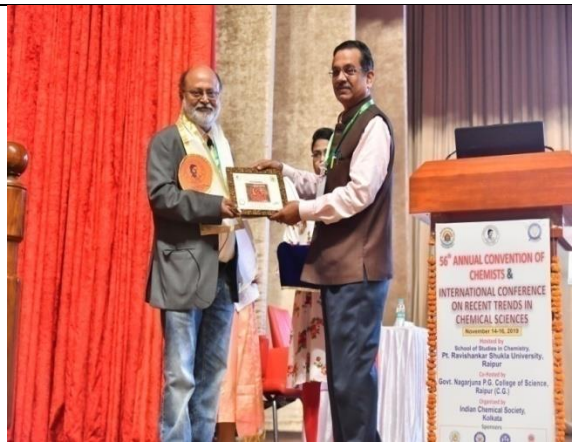




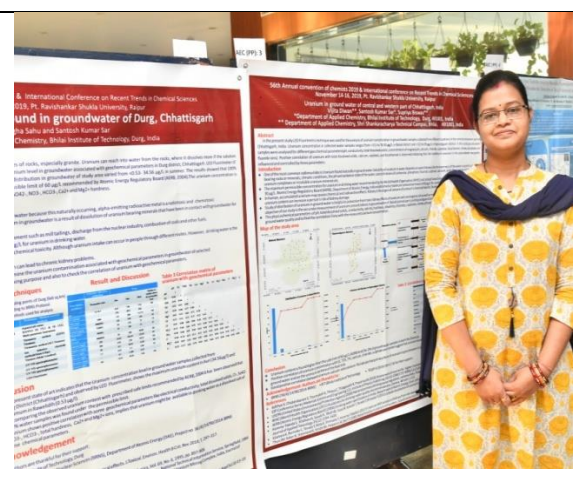
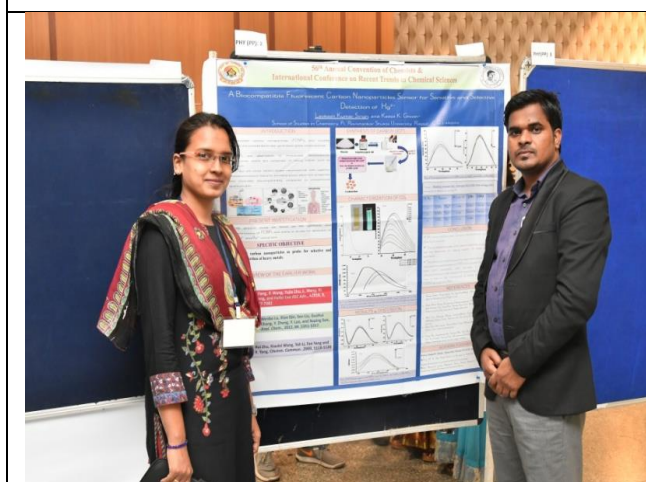




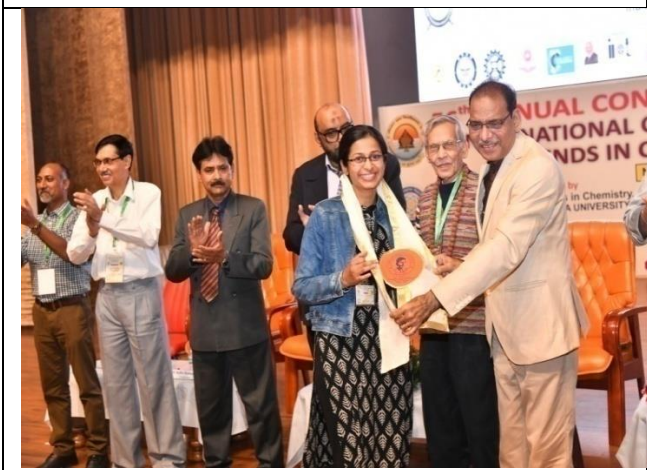




















## 56<sup>th</sup> ANNUAL CONVENTION OF CHEMISTS &

## INTERNATIONAL CONFERENCE ON RECENT TRENDS IN CHEMICAL SCIENCES

November 14-16, 2019

**Hosted by**  
 School of Studies in Chemistry,  
 PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR

**Co-Hosted by**  
 GOVT. NAGARJUNA P.G. COLLEGE OF SCIENCE,  
 RAIPUR (C.G.)

**Organized by**  
 Indian Chemical Society, Kolkata






**Sponsors**



**Indian Chemical Society Sincerely Thanks the Host Institutes and Sponsors of this Grand Event**



**Prof. Kollol Ghosh, Convener of 56<sup>th</sup> Annual Convention of Chemists 2019**



## Photo Gallery of Cultural programme at 56<sup>th</sup> Annual Convention of Chemists 2019















Address by Padma Shri Prof. G. D. Yadav  
 President Elect (2020-2022)  
 At 56th Annual Convention 2019



Valedictory Address by Prof. Dulal Chandra Mukherjee  
 President, Indian Chemical Society  
 At 56th Annual Convention 2019



Padma Shri Prof. G. D. Yadav, the new President of Indian Chemical Society (2020-2022) garlanding the portrait of Acharya P.C. Roy during his first visit to the ICS head office on 24th January, 2020. He was felicitated by Prof Ranjit K Verma and other Council Members.

*Glimpses of the first Council meeting of the year.*



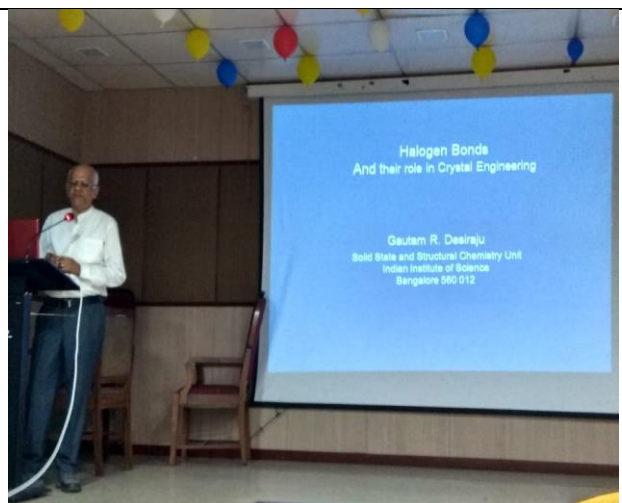






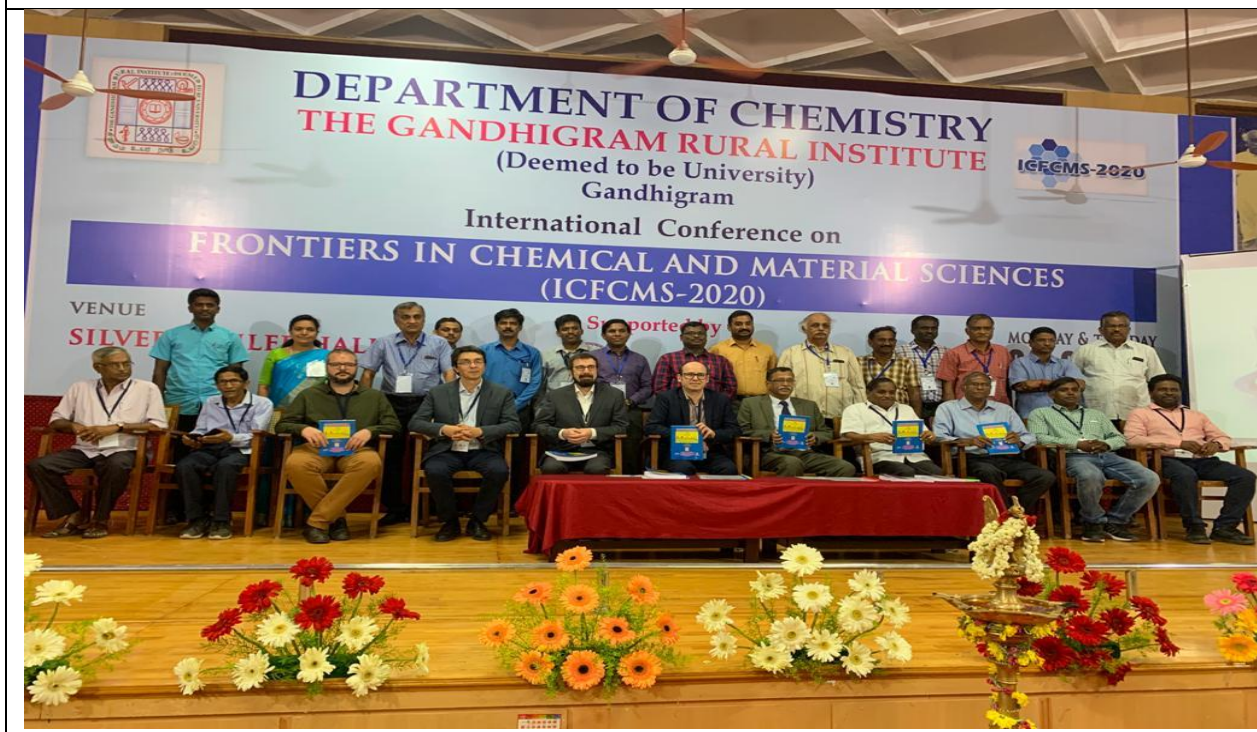


Special Lecture Programme at University Convention Hall, University of Calcutta, 24th January - 2020 (Rajabazar Science College Campus)





## International Conference on Frontiers in Chemicals and Material Science (ICFCMS-2020)



## Editorial-

**Indian Chemical Society** is a premier learned body of our country which was founded in 1924 with the leadership of Acharya Prafulla Chandra Ray, Professor J. C. Ghosh, Professor J. N. Mukherjee, Professor S. S. Bhatnagar, Professor N. R. Dhar and other distinguished personalities. Acharya Prafulla Chandra Ray, the doyen of Chemical Sciences in India was its founder President. Since inception the Indian Chemical Society has been publishing a monthly Journal entitled the **Journal of the Indian Chemical Society** (ISSN: 00194522) and organizing scientific meetings, conferences, symposia, seminars etc. regularly.

Any Scientific organization thrives on a communication mouthpiece that can disseminate knowledge to every stratum of Society. An online news bulletin is one such mode of communication that allows the readers to stay up to date in their relevant field. At this point, we take pride in announcing the launch of our very first news bulletin "**Chemical Warta**" on the occasion of National Science Day celebration. We would also like to acknowledge Prof. G.D. Yadav for proposing the name of this bulletin and his contribution to making this possible. Chemical Warta features news on upcoming national and international conferences in different fields, recent trends in Chemistry, modern techniques etc. Through this bulletin we hope to convey the different activities of Chemical Society. Through our bulletin we will try to provide a platform to the researchers in diverse areas to communicate and connect. We hope that every member will participate enthusiastically to serve the purpose of the bulletin. It is safe to predict that only a collective effort from our members will produce results that will change the way we live. In this context we want to appreciate the effort made by Miss. Debangi and Miss. Shreya, students of HIT Haldia, for designing the cover page of this issue.

The Indian Chemical Society deeply mourns the sad demises of the Fellows of the Society in the year 2019: Professor Sukumar Aditya, Professor Rama Basu, Dr. Indrajit Kar.

With Regards,

Dr. Nibedita Chakrabarti  
Editor

Dr. Gourisankar Roymahapatra  
Editor

