



# IPS NEWSLETTER

## No. 56, August 2024

<https://ipbsindia.in>

## EDITORIAL

Greetings from “**teamipsnewsletter**”.

We are happy to present the second edition of the IPS Newsletter in e-format. The last publication was in June 2023. Many exciting events have happened since then in photochemistry & photobiology research all over the world and also in the activities of our Society.

Perhaps one of the most stimulating event for all enthusiasts of “light & science” was the award of the 2023 Nobel Prize in Chemistry to Professors Mounji G. Bawendi, Louis E. Brus and Aleksey Yekimov, for the discovery and development of quantum dots. Not only do these tiny luminescent materials light up our TV screens and LEDs, they also improve our lives in so many other ways, by catalyzing chemical reactions, lighting up biomolecules and tracking tumor tissue in the body. Certainly, there is more for all of us to learn and experiment with, on these fascinating materials.

For the members of IPS, the past year has been especially important, as we celebrated the Diamond Jubilee of the foundation of our Society. Many significant activities were organized throughout the year to commemorate the occasion. These events have been beautifully

chronicled in this issue of the Newsletter, in messages shared by the President and Secretary.

We are also delighted to present articles written by Prof. J. P. Mittal, recipient of the Lifetime Achievement Award of IPS, 2023, and Prof. Samita Basu, who is one of our senior revered members.

We hope that you will enjoy reading this Newsletter and will find it informative. Please share your opinion along with comments, suggestions, and information relevant to the Indian Photobiology Society at:

**teamipsnewsletter@gmail.com**

***Dr. Sivaprasad Mitra***

***Dr. Sobhan Sen***

***Dr. Sharmistha Dutta Choudhury***

***Dr. Gourisankar Roymahapatra***

***Dr. Hirak Chakraborty***

# MESSAGE FROM THE PRESIDENT

It gives me immense pleasure to see that **IPS Newsletter** is on its regular track in terms of its publication. As mentioned in my message in the earlier issue of this new mode of IPS Newsletter, activities of the Indian Photobiology Society (IPS) have increased appreciably. Apart from organizing Seminars and Conferences, the IPS is now visiting different colleges to interact with the young stars and future scientists of the country, organizing workshops on varied contemporary scientific topics aiming again mostly for the budding scientists, now in their college education. The other important activity of IPS is "*IPS Monthly Science Talks*". Considering the provision of wider access to persons of all age and profession, overruling the graphical barrier to reach around the globe, generally such *online* talks take place on the last Saturday of every month at 7:00 pm (IST).

What is record today, history tomorrow. Hence it is important to keep the activities of the IPS documented in some form for the future. We have seen that from the previous issue, IPS Newsletter has changed its form from hard-bound print copy to online soft copy. This is a major modification that is at par with the call of the present E-era. I congratulate the entire Editorial team of IPS Newsletter (teamipsnewsletter) for their praiseworthy endeavour in meticulous collection of the activities of the Society and presenting them in a beautiful way.

In tune with my message in the previous issue of IPS Newsletter, as the President of the Indian Photobiology Society (IPS) I would urge to all the photobiologists, young or old, to join the IPS. Further I would appeal to the honorable members and well-wishers of the IPS to participate and contribute actively from all possible corners in all our endeavors to boost the activities of the IPS to assist, principally, the budding scientists of our great country in reaching the stalwarts in various domains of science and technology and to stimulate them to take higher science/technology as their profession. This will be a befitting way to pay homage to the great souls of our revered ancestors who established this truly interdisciplinary Society, which is celebrating its Diamond Jubilee.



**Dr. Chattopadhyay (PhD, DSc, FASc, FNASc) specializes in Photochemistry, Biophysical Chemistry, Surface Chemistry, Fluorescence Sensing, and Polymer Photophysics. He is a Fellow of the Indian Academy of Sciences, Bangalore (FASc), the National Academy of Sciences India, Allahabad (FNASc), West Bengal Academy of Science and Technology, Kolkata (FAScT). He is the recipient of the Bronze Medal of Chemical Research Society of India, Prof. R P Mitra Memorial Award (2024) from University of Delhi, Prof. S C Ameta Award (2019) from the Indian Chemical Society and Prof. S R Mohanty Memorial Award (2018) from the Orissa Chemical Society. He has been endowed with Shiksha Ratna Award from the Government of West Bengal (2019). He is the Associate Editor of Heliyon Chemistry, has served as the Associate Editor of Journal of Luminescence, and has been a member of the Editorial Boards of Journals like Biophysical Chemistry, Journal of Photochemistry and Photobiology B: Biology, Journal of Colloid and Interface Science, and Journal of Chemical Sciences.**

# MESSAGE FROM THE SECRETARY

The IPS Newsletter is the most up-to-date source of information on the current activities of the Indian Photobiology Society to members of the society in particular and to the students, researchers and public in general. The aim of the IPS Newsletter is to enhance communication among the society members and to help in bridging the gap between the up-to-date information and the formal communication of the scientific activities. The present report is organized in accordance with the activities of the Society performed from the 60<sup>th</sup> Foundation Day Celebration in July 2023 to the Annual Convention held in November 2023. Every relevant decision is taken in the Executive Council Meeting following a democratic process. So far four EC meetings were successfully held during this period and one meeting was cancelled for some unavoidable circumstances.

This time we have the pleasure to announce joyful events like continuation of monthly IPS Science Talk scheduled, generally (unless otherwise specified), in the evening of the last Saturday of every month. Also we organized several collaborative scientific programmes with many higher learning institutes like colleges, research institutes etc. including Scholars competitions on scientific presentations in the form of oral and poster.

## I. 60<sup>th</sup> Foundation Day Celebration

The Diamond Jubilee of the Foundation Day of the Indian Photobiology Society was celebrated during July 13-15, 2023 in Indian Institute of Science Education and Research (IISER) Kolkata. Professor Alakesh Bisai of Department of Chemical Sciences was the Convener of the programme and arranged this program with the theme, "**Sustainability & Interdisciplinarity in Chemical Sciences [SICS-2023]**" where more than 600 participants across the country participated. There were two Endowment Lectures; Sir J C Bose Endowment Lectures (recipient: Prof. Amitabha Chattopadhyay, CCMB, Hyderabad), Professor Mihir Chowdhury Endowment Lectures (recipient: Prof. Suresh Das, CSIR-NIIST, Thiruvananthapuram) and Professor K. K. Rohatgi-Mukherjee Endowment Lecture (recipient: Prof. Paramjit Khurana, Univ. of Delhi) and five Memorial Lecture awards to remember photoscientists of the country namely, Sir J. C. Ghosh (recipient: Prof. Ganesh Pandey, BHU), Professor Baba Kartar Singh (recipient:

Prof. J. N. Moorthy, Director, IISER, Thiruvananthapuram), Professor Sushil Kumar Mukherjee (recipient: Prof. Sanghamitra Samanta Ray, Central Rice Research Institute, Cuttack), Professor Nil Ratan Dhar (recipient: Prof. Ruchi Anand, IIT Bombay, Mumbai) and Dr. B. P. Mukherjee (recipient: Prof. Krishnananda Chattopadhyay, CSIR-IICB, Kolkata). In the Plenary and Invited Talks about 40 speakers spoke from different universities and research institutes of the country in the main Auditorium of IISER-Kolkata. The prizes for young scientists participated in the oral and poster competitions were sponsored by IISER Kolkata, ACS, RSC, G20 Bharat, Engineered Science Publishers and the IPS.

## II. The Celebration of Birth Centenary of Prof. K. K. Rohatgi-Mukherjee, Founder Secretary, IPS and 163<sup>rd</sup> Birth Anniversary of Acharya Prafulla Chandra Ray, Father of Indian Chemistry

In the history of Chemistry in India, 2<sup>nd</sup> August is an auspicious day, the Birthday of the Father of Indian Chemistry, Acharya Prafulla Chandra Ray (2<sup>nd</sup> August, 1861). In the history of Indian Photobiology, the 2<sup>nd</sup> August is equally glorious because of the Birthday of the Founder Secretary of IPS, Prof. Krishna Kamini Rohatgi-Mukherjee (2<sup>nd</sup> August, 1924). The Executive Council of the IPS decided to celebrate the Birth Centenary of the Founder Secretary on 2<sup>nd</sup> August 2023 along with 163<sup>rd</sup> Birth Anniversary of Acharya P. C. Ray. The celebration was initiated at 12:00 noon by garlanding the Statue of Acharya Ray in front of the PG Science building of Jadavpur University by the Head of the Department of Chemistry, Prof. Subratanath Koner followed by the President of IPS, the Secretary of IPS and many others including IPS members.

A small deliberation was made by the Members and Students of the Chemistry Department for about 30 min and then the meeting was shifted to the Physical Chemistry seminar room with IPS President in Chair. Prof. Swati De, EC Member of the IPS and Professor of Chemistry, Kayani University presented in short, the Life and Activities of the Founder Secretary along with deliberation by the President and the meeting adjourned till evening.



The meeting was then started virtually in the evening 7.00 PM with a deliberation by the Secretary of IPS Prof. C. Sinha, ***“Archarya Prafulla Chandra Ray: Architecture of Indian Chemistry”***; Prof. Swati De presented, in full-length, the ***Life and Activities of Prof. K. K. Rohatgi-Mukherjee***. The main scientific talk was delivered by Prof. Joe Otsuki, Professor, College of Science & Technology, Nihon University, Tokyo, Japan on ***“Supramolecular organization with emphasis on energy and electron transfer therein”***. The meeting was ended with Vote of Thanks by Dr. Gourisankar Roymahapatra, Associate Professor, Haldia Institute of Technology & Treasurer of the IPS.

### III. IPS Science Talk Series

(a) For fostering responsible research practice the Executive Council has started Monthly ‘IPS Science Talk’ that was inaugurated on 24th January 2023 by Prof. Nitin Chattopadhyay, President IPS. The passionate program continued with much enthusiasm and the 7<sup>th</sup> IPS Science Talk programme was held on 26<sup>th</sup> August, 2023. Dr. Abhisek Sau, Texas A & M University, USA, a young scientist, delivered on ***“Imaging Real-time Nuclear Transport in Nanometer Scale Using 3D Super-resolution Microscopy”***.

Prof. Sudipta Maiti, Professor and Chair, Department of Chemical Sciences, TIFR, Mumbai talked on ***“Single Molecule Photonics Enables Drug Design”***.

(b) The ‘8th IPS Science Talk’ in this series was held on 30th September, 2023 to remember sudden demise of Prof. Bikash Sinha, a Life Member of IPS & notable Nuclear Physicist, who died on 11th August, 2023. The IPS commemorated his scientific contribution on 30th September. Prof. Pradeep Sengupta, former colleague of Prof. Sinha and a former faculty of SINP talked on ***“Reminiscence of Prof. Bikash Sinha, Life member of Indian Photobiology Society”*** and Prof. Jane Alam, Professor and Head, Physics Group, VECC and a student of Prof. Sinha spoke on ***“Professor Bikash Sinha – The Scientist, Educator, Author, Inspiring Leader and Institute Builder”***.

(c) The IPS members joined on 9th IPS Science Talk on 3rd November, 2023 to pay tribute to

Professor M. S. Swaminathan, Padma Vibhushan, Father of Green Revolution in India, who expired on September 28, 2023. Dr. Manoj Prasad, FNA, Staff Scientists VII, J. C. Bose National Fellow, National Institute of Plant Genomic Research (NIPGR), New Delhi and a student of Prof. Swaminathan talked on “Feeding the 10 Billion by 2050: A Genomics Perspective” and Prof. Shantanu Jha, Professor, Department of Agricultural Entomology, BCKV, West Bengal, India spoke on “Agriculture and Food Security in Independent India – A Journey With Dr. M. S. Swaminathan”.

**IV. 4<sup>th</sup> International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC-2023) & Interdisciplinary Science for Sustainability as a part of the *Diamond Jubilee Celebration of Indian Photobiology Society* during 18-20 November, 2023, in KIIT (18/11/23 & 19/11/23) & CSIR-IMMT (20/11/2023), Bhubaneswar.**

The Society celebrated the “Diamond Jubilee” since January, 2023 and continued till end of this year. As a part of the Annual Convention, the 4th International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC-2023) & Interdisciplinary Science for Sustainability, organised jointly by KIIT and CSIR-IMMT, Bhubaneswar, during 18-20 November, 2023 was a part of the Diamond Jubilee Celebration of the Society. More than 45 internationally acclaimed Scientists and Researchers of the country and abroad delivered their research and about 70 presented their works through Oral and Poster in KIIT and CSIR-IMMT Auditoria. Prof. J. P. Mittal, Mumbai and Prof. Pradeep Sengupta, Kolkata were the recipients of the Lifetime Achievement Award of the IPS. The prestigious Diamond Jubilee Awards of the society were conferred on Prof. Achyuta Samanta, Founder of KIIT & KISS and Prof. S Susumu Kitagawa, Kyoto University, Japan, a renowned structural chemist. Prof. Anunay Samanta, University of Hyderabad, was the recipient of Professor K. K. Rohatgi-Mukherjee Birth Centenary Award; Prof. Ashok K. Ganguli, Director, IISER, Berhampur was the recipient of Prof. V. Ramakrishnan Memorial Award; Prof. Rajagopal Subramanyan, University of Hyderabad, was awarded Prof. G. V. Joshi Memorial Award; Prof. Debasis Dash, Director, Institute of Life Science, Bhubaneswar, was the recipient of Dr. K. M. Pannicker Memorial Award; Prof. B. B. Biswas Memorial Award was bestowed on Prof. Swagata

Dasgupta, IIT-KGP and Professor N. N. Dasgupta Memorial Award was conferred on Prof. K. K. Nanda, Director, Institute of Physics, Bhubaneswar. ACS, RSC, ES Publishers, and the Society covered a large number of Awards to the selected Young Researchers. Thanks were due to Prof. Rojalin Sahu, KIIT and Dr. Bama P. Bag, IMMT for volunteering as Conveners of the whole program. Our sincere thanks to Prof. Rojalin Sahu and Dr. Bama P. Bag for their tireless efforts to execute the Annual Convention a grand success. The IPS sincerely acknowledges and appreciates the supports from ACS, RSC, ES Publishers, SERB, CSIR, TATA Steel and other organizations in different capacities to make this program successful. Organizational and Infrastructural support from KIIT and IMMT are gratefully acknowledged.

**V. IPS supported collaborative programs:**

**(a) Second International Science Conference, organized by Syamsundar College, Burdwan, on August 11, 2023**

To celebrate the glorious 75th Anniversary, Shyamsundar College, Burdwan, organized second International Science Conference in association with the Indian Photobiology Society under the theme titled “Science & Environment: Challenges to Sustainability and Survivability” (SECSS-2023) on August 11, 2023. Prof. C. Sinha, Secretary, IPS deliberated a talk entitled, “Concentration of Ions/Molecules and Human Health” and acted as one of the judges in the Posters and Oral competitions.

**(b) Sonamukhi College, Bankura, on October 10, 2023**

Under the Convenership of Dr. Sadhan Kumar Roy, Asst. Professor, Department of Chemistry, Sonamukhi College organised one day Seminar on “Teaching and Learning in Chemistry towards Sustainability’. Prof. N. Chattopadhyay, President IPS and Prof. C. Sinha, Secretary delivered two talks on this occasion. Students’ competition was held by displaying Posters and also by Oral presentation. IPS awarded a few selected students.

**(c) Shri Shikhayatan College, a One-day Program on December 19, 2023**

Department of Chemistry, Shri Shikhayatan College, Kolkata in collaboration with Indian Photobiology Society arranged a One Day National Seminar

entitled, "Chemistry in Biology" on 19<sup>th</sup> December, 2023. The Speakers were Dr. Sanjib Kar, Associate Professor School of Chemistry National Institute of Science Education and Research, Bhubaneswar and Dr. Susmita Das, Assistant Professor, Stage III, Department of Botany, Phytochemistry and Pharmacognosy Laboratory, University of Calcutta. There was a Young Scientists' Session (Oral/Poster). Prof. C. Sinha, Secretary greeted this program giving inaugural lecture on 'Science & Society – Our Culture'. Prof. N. Chattopadhyay, President IPS delivered a talk on 'Attitude'. Both the President and the Secretary joined in the evaluation of Posters and Oral presentations.

**VI. Agreement for Academic Collaboration with Shri Shikshayatan College, 11, Lord Sinha Road, West Bengal - 700071 (affiliated to the University of Calcutta) and Indian Photobiology Society, Jadavpur University Campus, Kolkata - 700032 (affiliated to the Association Internationale de Photobiologie).**

Both parties have agreed to explore and implement mutually rewarding viable initiatives focused on, among others, the following areas of academic cooperation:

1. Jointly organize seminars, conferences, and workshops on topics of mutual interest.
2. Share scientific information on areas of mutual interest.
3. Other academic collaborations, including publications, student activities, etc.

The MOU (Memorandum of understanding) has been signed by Dr. Aditi Dey, Principal, Shri Shikshayatan College, Kolkata and Smt. Anasua Das, IQAC Coordinator, Shri Shikshayatan College, Kolkata. From the Society signatories are Prof. Nitin Chattopadhyay, President and Prof. Chittaranjan Sinha, Secretary, Indian Photobiology Society & Professors, Department of Chemistry, Jadavpur University, Kolkata on 19<sup>th</sup> December, 2023.

**VII. Awards**

(a) Lifetime Achievement awards (2023)

1. Prof. J. P. Mittal, Distinguished Professor & Chair Academic Board, CEBS Mumbai, Ex-BARC
2. Prof. Pradeep Sengupta, Ex-SINP

(b) Prof. K. K. Rohatgi-Mukherjee Birth Centenary Lecture Award

Prof. Anunay Samanta, Hyderabad University

(c) Diamond Jubilee Lecture Award

1. Prof. Susumu Kitagawa, Kyoto Univ, Japan
2. Prof. Achyuta Samanta, Founder KIIT & KISS, Bhubaneswar

(d) Memorial Awards

1. Prof. N. N. Dasgupta Memorial Award (Physics, CU): Prof. Karuna Kar Nanda, Director, Institute of Physics, Bhubaneswar, Odisha
2. Prof. B. B. Biswas Memorial Award (Biochemistry, Bose Inst): Prof. Swagata Dasgupta, IIT-KGP
3. Prof. G. V. Joshi Memorial Award (Botany, Delhi): Prof. Rajagopal Subramanyam, Department of Plant Sciences, School of Life Sciences, University of Hyderabad
4. Prof. K. M. Pannicker Memorial Award (Medical, Delhi): Prof. Debasis Dash, Director, Institute of Life Science, Bhubaneswar
5. Prof. V. Ramakrishnan Memorial Award (Chemistry, IIT Madras): Prof. Ashok K Ganguli, Director, IISER, Berhampur.

**VIII. New Logo**

New Logo has been accepted in July Meeting and is introduced.

**IX. Membership**

(a) Students' Membership

The propositions of Students Membership and Students' Chapter are accepted by the Society and introduced.

(b). Foreign Membership

Foreign Membership is introduced and the Registration fee \$ 10.00 and Membership Fee \$ 200.00 (Total : \$210.00).

(c) Total Members in 2023:

There are 51 new members registered in 2023 across the globe. It is certain that majority from India (45) and six members from abroad including USA, Japan, UK, Israel, Czechoslovakia and Kenya. Indian members are distributed from Kashmir to Kalinga, East to West & North to South. For kind information, maximum membership is issued from July, 2023.

## X. Fund Raising towards Endowment Awards

Prof. Subhash C Bera, Patron of IPS has donated one-time Rs. 2 Lakhs 15 thousand for two Endowment Lecture Awards in the name of Acharya Jagadish Chandra Bose Endowment Lecture Award, and Prof. Mihir Chowdhury Endowment Lecture Award. The IPS sincerely thanks Prof. Bera and appreciates very much his kind donation towards these two Endowment Lecture Awards.

**Dr. Sinha specializes in Coordination Chemistry, especially the design of chemosensors, detection of environmentally important ions and molecules, coordination polymers, MOFs, electrical conductivity, supercapacitor, ion sensors, catalysis, electrochemistry, exploration of drug efficacy, and computation.**

**He received the International Lecturer Award from Padova University, Italy (2011); Best Chemistry Teacher (2012), and William Ramsay Distinguished Researcher Award (IMRF) (2022). He is the Fellow of the West Bengal Academy of Science & Technology (FAScT) (2018) and Engineered Science Society (2022). He has published more than 460 publications in reputed and refereed journals. His h-index is 47 and his i-10 index is 245. Dr. Sinha is in the top 2% scientists of in the world in the list prepared by Stanford University and Elsevier in 2020, 2021, and 2022.**



# PERSPECTIVES ON PHOTOCHEMISTRY RESEARCH

My association with the Indian Photobiology Society (IPS) spans over five decades. I still remember the day when I was attending a meeting of the Indian Science Congress at IIT Kharagpur for giving an invited lecture, where Prof. Rohatgi Mukherjee spotted me and approached me to become a member of the IPS. That was the beginning of my long and fruitful relationship with Prof. Mukherjee and IPS. In those days, photochemistry and photobiology research in the country was just beginning to take shape. Realizing the immense prospects in this field, I had taken up the charge to build a strong research team in BARC, Mumbai, for carrying out advanced studies in the twin areas of radiation and photochemistry. We were engaged in developing state-of-the-art national facilities with LASERS and accelerators, for flash photolysis and pulse radiolysis experiments. During this time, I had a very good collaboration with Prof. Mukherjee. She would visit our laboratories often, and together with our spectroscopy research group we would try to address many difficult scientific problems. She was also the examiner of the thesis work of many of my Ph. D. students.

During my tenure as Director, Chemistry & Isotope Group at BARC, I passionately supported the establishment of nano, pico and femtosecond pump and probe techniques to study fast and ultrafast chemical dynamics. Our efforts extended to exploring molecular laser isotope separation, excited state properties of laser dyes, atmospheric photochemical processes, analysing volatile organic compounds and their global warming potential. These fields of study hold immense significance to this day, as we strive to attain our sustainable development goals of affordable and clean energy and climate control. I believe that research in photochemistry and photobiology holds the key to providing us with many smart solutions to the challenges that we face today, be it energy conversion, energy efficient display devices, photocatalysis, optical imaging or novel therapeutics and diagnostics for healthcare. In recent years, advances in materials with tailored optical properties have expanded our repertoire of luminescent species beyond simple molecular systems and provided new opportunities for creating and manipulating light. At the same time, developments in single molecule spectroscopic techniques have taken us into new

spatial domains and made it possible to observe fluorescence images in the nanoscale. Exciting developments are also taking place in the fields of upconverting phosphors, plasmon-coupled photochemistry, persistent luminescent materials and aggregation induced emissions.

I strongly believe that the young and budding scientists of our nation are well poised to carry forward the rich legacy of photochemical and photobiological research and make rapid progress, at par with the developments taking place globally. I hope that the IPS, under the leadership of Prof. N. Chattopadhyay and Prof. C. R. Sinha, will continue to promote and popularize education and research in photochemical sciences and uphold the spirit of networking and scientific collaborations among its members, for years to come.



**Prof. J. P. Mittal is presently Distinguished Professor & Chair Academic Board at Centre for Excellence in Basic Sciences, University of Mumbai. He was Director, Chemistry & Isotope Group, BARC for several years, after**

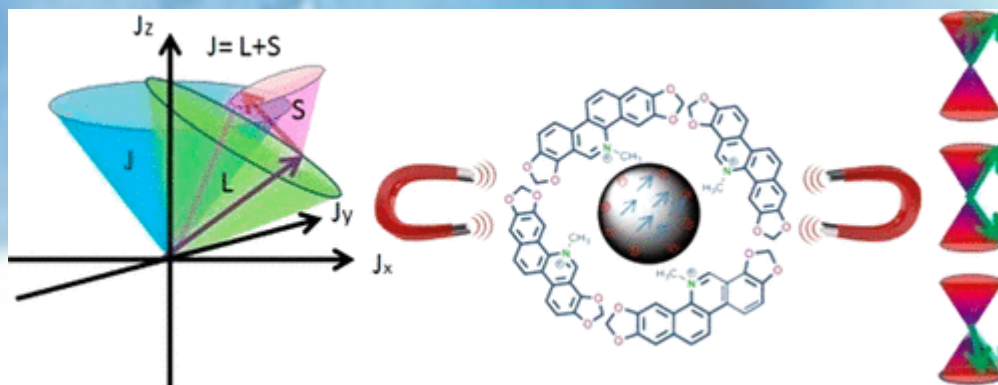
**which he served as DAE Raja Ramanna Fellow, BARC, Distinguished Professor, IIT Mumbai and Honorary Distinguished Professor, Pune University. During his research career, he published more than 350 papers in international journals and guided about 35 younger colleagues for their Ph. Ds. He is a Fellow of all the three Science academies in India, namely the National Academy of Sciences, India (FNASc), the Indian Academy of Sciences (FASc) and the Indian National Science Academy (FNA) and also a Fellow of World Academy of Sciences (TWAS). He has also been a board member of various research funding agencies of DAE, DST, UGC etc and INSA Council member. He is the recipient of Humboldt Senior Research Award, Senior JSPS Fellowship, Fulbright Fellowship-USA, Distinguished Photo-chemist Award from Japanese Society of Photochemistry, Life Time Achievement awards from the Chemical Research Society of India, Indian Chemical Society and the Indian Photobiology Society. He was honoured with the Padma Shri by the Government of India in 2003.**

# THE WORK YET TO BE RATIONALISED

On the verge of my retirement from Saha Institute of Nuclear Physics, one of our Post M.Sc. students, Abhishek joined my group as a junior research fellow. He was willing to start his Ph.D. work with nanomaterials. During that period, we had adequate instrumental facilities inside Institute premises regarding steady-state and time-resolved absorption and fluorescence spectroscopy, transmission electron microscopy, atomic force microscopy, confocal microscopy, etc. for characterization of nanomaterials. In the beginning Abhishek worked jointly with Kallol, a senior scholar of our division. They succeeded in synthesizing carbon dots (CDs), an important nanomaterial in modern biotechnology, by pyrolysis of citric acid in the presence of dopant Ru (III) that helps to identify seven stable intermediates of Ru:CDs even by naked eyes. The investigation of physical, chemical, and structural properties of CDs using spectroscopy is very difficult because of their highly complex structure that produces excitation-dependent photoluminescence violating Kasha-Vavilov rule. The presence of chemically switchable conjugated moieties in CDs was supported by a model cocktail containing multiple fluorophores and their photobleaching to different extents. However, amination of Ru:CDs by ethylene diamine (EDA) produces excitation-independent highly fluorescent EDA capped nanodots (Ru:CNDEDAs) (*Chem. Mater.* 2016, 28, 7404–7413). The chemically engineered Ru:CNDEDAs undergo an efficient photoinduced electron transfer with Menadione (MQ), an anticancer drug (Vitamin K3) that accepts electron. The efficiency of electron transfer enhances when Ru:CNDEDAs are linked with MQ through homocystein thiolactone (HCTL), an intermediate spacer of 1.32 nm, reducing back electron transfer. The result is

supported by magnetic field effect where about 1.0 nm intermediate distance is required between radical ions to make exchange interaction negligible producing maximum field effect. This phenomenon helps to develop a sensing tool to estimate toxic and carcinogenic quinones in live cells (*J. Phys. Chem. C* 2016, 120, 26630–26636). Similar observations were obtained with fluorescent polymer like material where Ru:CDs act as building blocks. Here the high energy donor states and low energy aggregated states are formed through overlapping of molecular orbitals of  $\pi$ -network (*J. Phys. Chem. C* 2018, 122, 23799–23807). Later, Ranjan and Abhishek showed that the electron transfer between anionic CDs and MQ is enhanced in cationic CTAB but not in anionic SDS micelles (*J. Phys. Chem. C* 2021, 125, 17418–17427).

While working with another nanomaterial, FeNP ( $\text{Fe}_3\text{O}_4$ ) Abhishek and Sudeshna observed an interesting phenomenon with Sanguinarine (Sgr), another important anticancer drug, in acetonitrile medium. The S-T intersystem crossing of the chromophore occurs through L-S coupling. Normally that process is influenced by magnetic field of the order of tesla. Since FeNP is a ferrimagnetic material, even in the presence of very low magnetic field (0.01 tesla), it becomes superparamagnetic through exchange coupling of electrons, hence the S-T transition of Sgr increases drastically. However, AuNP cannot influence such intersystem crossing in presence of magnetic field (*J. Phys. Chem. C* 2018, 122, 20619–20631). Similar contradictory behaviour between FeNP and AuNP



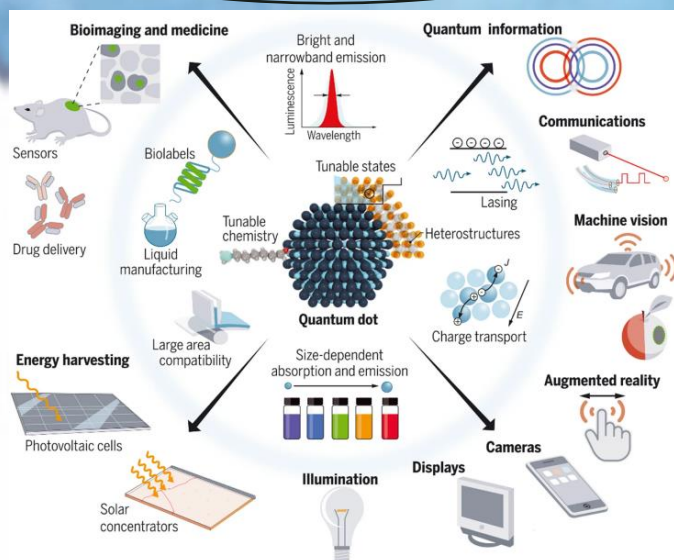
**Fe nanoparticles lead to drastic increase in S-T intersystem crossing of Sanguinarine, an important anticancer drug, even in the presence of very low magnetic fields (0.01 tesla) (Adapted from *J. Phys. Chem. C* 2018, 122, 20619–20631).**

was also observed in other systems. In presence of FeNP, the photoinduced electron transfer was observed between MQ and adenine, one of the nucleobases, because MQ interacts specifically with FeNP through oxygen ( $sp^2$  O) atom, therefore the lone pair of electron on  $-NH_2$  of adenine is donated spontaneously to MQ. On the contrary, AuNP is associated with adenine through its  $-NH_2$  ( $sp^3$  N-atom) group that reduces electron transfer but enhances hydrogen atom transfer with MQ (*Scientific Reports 2020, 10, 18454-18466*).

Usually, the spectroscopic methods are convenient for quantitative analysis by monitoring a particular characteristic of reactants or products. In solutions

this is possible once the exact concentrations of the chromophore and the interacting molecules are known. Here the nanoparticles are to be treated as one of the components of the solvent matrices. On the other hand, if the nanoparticles like CDs act as chromophore, it becomes difficult to execute a quantitative analysis. So far, the intricate structure of CD, which also depends on its method of preparation, is not fully resolved. Therefore, with CDs, it is better to pursue a qualitative estimation of the relative changes in the reactants or products rather than a quantitative analysis.

Prof. Samita Basu did her B.Sc. and M.Sc. in Chemistry from Presidency College, Calcutta University and Ph.D. from Jadavpur University in 1989. She did her Ph.D. work on Spectroscopy under the supervision of Professor Mihir Chowdhury at Indian Association for the Cultivation of Science, Jadavpur, Kolkata. After that she joined St. Xavier's College, Kolkata as a Lecturer in Chemistry in 1990. She joined as a Faculty Member at the Chemical Sciences Division of Saha Institute of Nuclear Physics, Kolkata in 1992 and superannuated from the Institute as a Senior Professor and Head of the Department in December 2018. Presently, she is continuing her research work and also teaching M.Sc. students at Calcutta University, West Bengal State University, Bidhannagar College and Scottish Church College, Kolkata as a guest teacher. The broad area of her research is spectroscopy focusing on photochemistry and spin chemistry on electron transfer and hydrogen abstraction reactions between small therapeutically important molecules and protein, DNA, nanomaterials, etc in homogeneous and heterogeneous media. She supervised seventeen Ph.D. students and published more than 150 papers in peer reviewed journals including book chapters. Along with her research, she used to teach M.Sc students at Calcutta University and Bidhannagar College. She was elected as a Fellow of the West Bengal Academy of Science and Technology in the year 2010 for her contributions in the field of Molecular Spectroscopy. She was awarded Professor P.K. Bose Memorial Award in 2012 and Professor K.K. Rohatgi-Mukherjee Memorial Award in 2021 from Indian Chemical Society. She was also an Executive Committee member of International Spin Chemistry for fifteen years.



## The 2023 Nobel Prize in Chemistry: Quantum dots

A snapshot of various technologies with semiconductor quantum dots

Adapted from *Science* (373) 2021, 6555.



### Indian Photobiology Society, Kolkata, India SCIENTIFIC LECTURE SERIES 2023

#### Lecture 12 :-

**Topic :-** Imaging real-time nuclear transport in nanometer scale using 3D Super-Resolution Microscopy

**Speaker :-** Dr. Abhisek Sau,  
Texas A & M University, USA  
Post-doctoral Research Associate  
Dept. of Molecular & Cellular Medicine,  
Texas A & M University, USA



**Organized by :-**  
Indian Photobiology Society,  
Kolkata, INDIA.



**Mode :-** ONLINE,  
<http://meet.google.com/wbn-hruu-ubj>

**Date :-** 26 August, 2023 at 7: 00 pm

**Email :-** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com)  
[crsjuchem@gmail.com](mailto:crsjuchem@gmail.com)



### Indian Photobiology Society, Kolkata, India SCIENTIFIC LECTURE SERIES 2023

#### Lecture 13 :-

**Topic :-** Single Molecule Photonics  
Enables Drug Design

**Speaker :-** Prof. Sudipta Maiti,  
Professor and Chair, Department of  
Chemical Sciences, TIFR, Bombay



**Organized by :-**  
Indian Photobiology Society,  
Kolkata, INDIA.



**Mode :-** ONLINE,  
<http://meet.google.com/wbn-hruu-ubj>

**Date :-** 27 August , 2023 at 7: 30 pm

**Email :-** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com)  
[crsjuchem@gmail.com](mailto:crsjuchem@gmail.com)

## INDIAN PHOTOBIOLOGY SOCIETY

Jadavpur University Campus, Kolkata 700032, West Bengal, India

Estd.: 1964 Regd. No.: SO/010422 of 1970-71

(Affiliated to the Association Internationale de Photobiologie)

Phone: 033-24572776 ; E-mail: indianphotobiology@gmail.com



iiserb

MAULANA ABUL KALAM AZAD  
UNIVERSITY OF TECHNOLOGY,  
WEST BENGAL



A Tribute to

## Prof. Kankan Bhattacharyya

Commemoration Ceremony

12TH DECEMBER (TUESDAY), 7.00 PM (IST)

MEETING LINK : <https://miami.zoom.us/j/91076429404?pwd=>

MEETING ID : 910 7642 9404 PASSCODE : 868219



**Title of the Talk :** Reminiscence of Prof. Kankan Bhattacharyya, a Life Member of Indian Photobiology Society

**Speaker :** Prof. Tapas Chakraborty,  
Vice Chancellor, MAKAUT, West Bengal, India



**Title of the Talk :** Light and Life: Real Life Applications of Photochemistry

**Speaker :** Prof. Vaidhyanathan Ramamurthy  
Department of Chemistry,  
University of Miami  
Coral Gables, FL, USA

### Organized By

Indian Photobiology Society, Kolkata, India

In Association with

Dept. Of Chemistry, Maulana Abul Kalam Azad University  
of Technology, Kolkata, India

&

Dept. Of Chemistry, Indian Institute of Science Education  
and Research, Bhopal, India

# IPS EVENTS

## Scientific Lecture Series



**Indian Photobiology Society, Kolkata, India**  
**SCIENTIFIC LECTURE SERIES 2023**

**Lecture 15:-**  
**Topic :-** Light signaling and flowering time control as a means of Agricultural productivity

**Speaker :-** Kishore CS Panigrahi,  
School of Biological Sciences,  
HBNI, NISER, Bhubaneswar 752050,  
Odisha




**Organized by :-**  
Indian Photobiology Society,  
Kolkata, INDIA.

[f](#) [@](#) [v](#) [c](#)

**Mode :-** ONLINE,  
<http://meet.google.com/ytm-apqo-uej>


**Date :-** 26th January, 2024, 7.00 PM

**Email :-** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com)  
[crsjuchem@gmail.com](mailto:crsjuchem@gmail.com)



**INDIAN PHOTOBIOLOGY SOCIETY, KOLKATA, INDIA**  
**SCIENTIFIC LECTURE SERIES - 2024**  
**Special Topic: "Cancer and Consciousness"**

**Lecture 16:-**  
**Topic:-** SCIENCE BEHIND TOBACCO ADDICTION AND CESSATION  
**Speaker:-** Dr. PAWAN GUPTA  
Sr. Director, Surgical Oncology,  
MAX Institute of Cancer Care, EZ- Delhi NCR




**Lecture 17:-**  
**Topic:-** Imatinib - A miracle anti-cancer drug: Discovery and Application  
**Speaker:-** Dr. SOUMYA BHATTACHARYA  
CONSULTANT HAEMATOLOGIST AND HAEMO-ONCOLOGIST  
APOLLO GLENEAGLES HOSPITAL, KOLKATA




**Organized by:-**  
Indian Photobiology Society  
Kolkata, India  
<https://ipbsindia.in/>

**Mode :-** Online  
**Meeting Link :-** [meet.google.com/nkb-ccmq-jek](https://meet.google.com/nkb-ccmq-jek)  
**Date & Time :-** 30<sup>th</sup> March, 2024; at 07:00 PM (IST)  
**E-Mail :-** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com)  
[crsjuchem@gmail.com](mailto:crsjuchem@gmail.com)




**INDIAN PHOTOBIOLOGY SOCIETY, KOLKATA, INDIA**  
**SCIENTIFIC LECTURE SERIES - 2024**

**Lecture 18:-**  
**Topic:-** Lanthanide ELEMENTS with helical molecular structure: from the molecular design to the application  
**Speaker:-** Prof. Miki Hasegawa  
Department of Chemistry and Biological Science,  
Aoyama Gakuin University, Shibuya City, Tokyo, Japan



**Lecture 19:-**  
**Topic:-** Coordination-Directed Photoactive Supramolecular Porphyrin Assemblies  
**Speaker:-** Prof. Joe Otsuki  
College of Science and Technology, Nihon University  
Kanda Surugadai, Chiyoda-ku, Tokyo, Japan



**Organized by:-**  
Indian Photobiology Society  
Kolkata, India  
<https://ipbsindia.in/>

**Meeting Link:-** [meet.google.com/nkb-ccmq-jek](https://meet.google.com/nkb-ccmq-jek)  
**Date & Time:-** 25<sup>th</sup> May, 2024; at 06:30 PM (IST)  
**E-Mail:-** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com)  
[crsjuchem@gmail.com](mailto:crsjuchem@gmail.com)

### INDIAN PHOTOBIOLOGY SOCIETY, KOLKATA, INDIA

SCEINTIFIC LECTURE SERIES – 2024  
16<sup>th</sup> IPS Science Talk, 30<sup>th</sup>-June, 2024

**Lecture 20:-**  
**Topic:-** HARNESSING CHEMICAL BIOLOGY  
OF NUCLEIC ACIDS FOR TARGETED  
TRANSCRIPTION THERAPY

**Speaker:-** Prof. Namasivayam Ganesh Pandian  
Institute Integrated Cell-Material Sciences (iCeMS),  
Kyoto University, Sakyo-Ku, Kyoto 606-8501, Japan



**Organized by:-**

Indian Photobiology Society  
Kolkata, India  
<https://ipbsindia.in/>

**In Association With:-**

University of Kalyani  
Nadia, Kalyani, West Bengal  
<https://klyuniv.ac.in/>

**Meeting Link:-** [meet.google.com/qxe-pevg-rua](https://meet.google.com/qxe-pevg-rua)

Link will be available from 6.45 PM

**Date & Time:-** 30<sup>th</sup> June, 2024; at 07:00 PM (IST)

**Contact-Mail:-** [crsjuchem@gmail.com/](mailto:crsjuchem@gmail.com)  
[indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com) (IPS)  
[hodchemistry@klyuniv.ac.in](mailto:hodchemistry@klyuniv.ac.in) (HOD, KU)

### INDIAN PHOTOBIOLOGY SOCIETY, KOLKATA, INDIA

SCEINTIFIC LECTURE SERIES – 2024  
17<sup>th</sup> IPS Science Talk, 31<sup>st</sup>-August, 2024

**Lecture 21:-**

**Topic:-** Advancement in Environmental and Health Monitoring;  
Customization of Organic-Doped Polyethyleneimines  
for Improved Durability and Performance

**Speaker:-** Dr. Nilanjan Dey  
Department of Chemistry,  
BITS-Pilani Hyderabad Campus,  
Hyderabad, Telangana, India

**Organized by:-**

Indian Photobiology Society  
Kolkata, India  
<https://ipbsindia.in/>

**In Association With:-**

Assam University  
Silchar, Assam, India  
<http://www.aus.ac.in/>

**&**

Dept. of Chemistry  
Midnapore College (Autonomous)  
West Bengal, India  
<https://midnaporecollege.ac.in/>

**Meeting Link:-** [meet.google.com/wtr-kztv-wdo](https://meet.google.com/wtr-kztv-wdo)

**Date & Time:-** 31<sup>st</sup> August, 2024; at 07:00 PM (IST)

**Contact-Mail:-** [crsjuchem@gmail.com/](mailto:crsjuchem@gmail.com) [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com) (IPS)

[j.seikh@gmail.com](mailto:j.seikh@gmail.com) (HOD, Chemistry, Assam University)

[tridib.tripathy@midnaporecollege.ac.in](mailto:tridib.tripathy@midnaporecollege.ac.in) (HOD, Chemistry, Midnapore College)



# IPS EVENTS



## SUSTAINABILITY & INTERDISCIPLINARY IN CHEMICAL SCIENCES SICS 2023

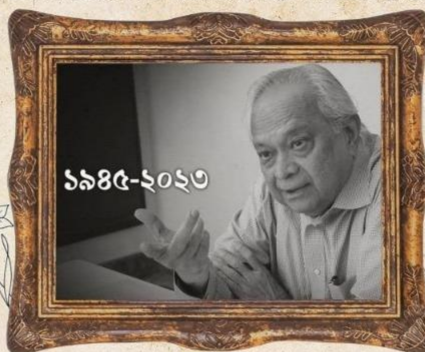
13<sup>th</sup> - 15<sup>th</sup> July 2023





## INDIAN PHOTOBIOLOGY SOCIETY

Jadavpur University Campus, Kolkata 700032, West Bengal, India  
Estd.: 1964 Regd. No.: SO/010422 of 1970-71  
(Affiliated to the Association Internationale de Photobiologie)  
Phone: 033-24572776 ; E-mail: indianphotobiology@gmail.com



A Tribute to

## Prof. Bikash Sinha

Commemoration Ceremony

30TH SEPTEMBER - 2023, AT 7.00 PM EVENING (IST)

MEETING LINK : <https://meet.google.com/wbn-hruu-ubj>



**Title of the Talk :** Reminiscence of Prof. Bikash Sinha, a Life Member of Indian Photobiology Society

**Speaker :** Dr. Pradeep Sengupta  
Emeritus Fellow, UGC, Govt. of India  
Former Professor, SINP,  
Kolkata



**Title of the Talk :** Professor Bikash Sinha - The Scientist, Educator, Author, Inspiring Leader and Institute Builder

**Speaker :** Prof. Jan-e Alam,  
Head, Physics Group,  
Variable Energy Cyclotron Centre,  
Kolkata

Organized By

Indian Photobiology Society, Kolkata, India



## INDIAN PHOTOBIOLOGY SOCIETY

Jadavpur University Campus, Kolkata 700032, West Bengal, India  
Estd.: 1964 Regd. No.: SO/010422 of 1970-71  
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Phone: 033-24572776 ; E-mail: indianphotobiology@gmail.com



A Tribute to

### Padma Vibhushan Prof. Mankombu Sambasivan Swaminathan

**"Father of Green Revolution in India"**

Commemoration Ceremony

3RD NOVEMBER - 2023, AT 7.00 PM EVENING (IST)

MEETING LINK : [meet.google.com/ise-jfhp-wwt](https://meet.google.com/ise-jfhp-wwt)



**Title of the Talk :** Feeding the 10 Billion by 2050: A Genomics Perspective

**Speaker :** Dr. Manoj Prasad, FNA  
Staff Scientists VII, J C Bose  
National Fellow National Institute  
of Plant Genomic Research (NIPGR),  
New Delhi, India



**Title of the Talk :** Agriculture and Food Security in Independent India- a Journey with Dr. M. S. Swaminathan

**Speaker :** Prof. Shantanu Jha  
Professor, Department of  
Agricultural Entomology, BCKV,  
West Bengal, India

Organized By

Indian Photobiology Society, Kolkata, India

## 4<sup>th</sup> International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC-2023)

&  
Interdisciplinary Science for Sustainability

*as a part of the:*  
Diamond Jubilee Celebration of Indian Photobiology Society  
18<sup>th</sup>-20<sup>th</sup> November, 2023

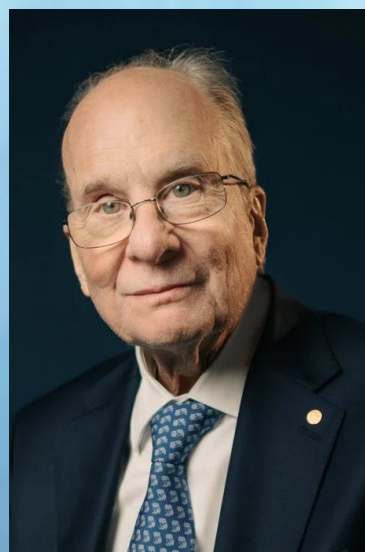


# Nobel Prize in Chemistry 2023

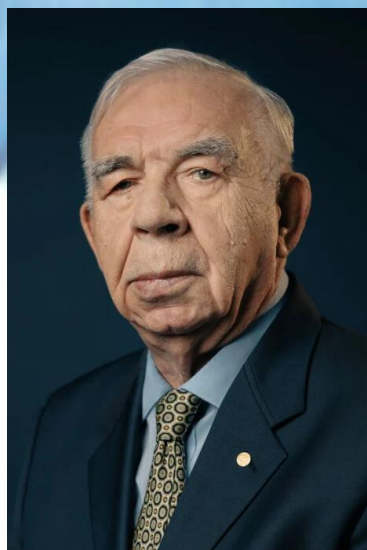
**The Nobel Prize in Chemistry 2023 was awarded to Mounqi G. Bawendi, Louis E. Brus, and Aleksey Yekimov "for the discovery and synthesis of quantum dots"**



**Mounqi G. Bawendi**



**Louis E. Brus**



**Aleksey Yekimov**

# UPCOMING EVENTS

## National Workshop on Fluorescence and Raman Spectroscopy (FCS XV) and Optics Within Life Sciences (OWLS 17)



**November 16-21, 2024**  
**Venue: IIT Bombay**

**FCS XV: November 16-18, 2024**  
**OWLS17: November 18-21, 2024**

The National Workshop on Fluorescence and Raman Spectroscopy (FCS XV) will take place at the Indian Institute of Technology Bombay (IIT Bombay) from November 16-18, 2024, in Mumbai, India. This year, the workshop includes a separate online teaching component on various instrumentation basics and applications from October 18-20, 2024. The in-person workshop at IIT Bombay will offer hands-on training on advanced techniques such as Fluorescence Correlation Spectroscopy, Raman spectroscopy, Super-resolution microscopy, Time-Resolved Fluorescence Spectroscopy, and Ultrafast Techniques.

The workshop will be followed by the International Conference on the Optics Within Life Sciences (OWLS-17) from November 18-21, 2024.

Mihir Chowdhury Student Fellowship of INR 100000 and R. S. Daryan Student Fellowship of INR 50000 will be awarded to students/postdocs during the event.

Applications are invited from academia and industry. Basic knowledge of laser spectroscopy and microscopy is preferred. Interested candidates can apply online through pre-registration form available here:

<https://fluorescenceindia.org/workshop/fcsxv/registration>

<https://fluorescenceindia.org/workshop/owls17/registration>

**Pre-registration Deadline: 10 September, 2024**

**FCS XV Online Teaching Workshop**  
18 – 20 October 2024

**FCS XV In-Person Workshop**  
16 – 18 November 2024

**OWLS-17 Conference**  
18 – 21 November 2024



ORGANIZED BY:



### CONVENERS:

Ruchi ANAND  
(IIT Bombay)

Dipanshu BANSAL  
(IIT Bombay)

Arindam CHOWDHURY  
(IIT Bombay)

Shobhna KAPOOR  
(IIT Bombay)

Ambarish KUNWAR  
(IIT Bombay)

Samir MAJI  
(IIT Bombay)

Roop MALLIK  
(IIT Bombay)

Ishita SENGUPTA  
(IIT Bombay)

### ORGANIZING COMMITTEE:

Debanjan BHOWMIK  
(RGCBS Trivandrum)

Jyotishman DASGUPTA  
(TIFR Mumbai)

Anindya DATTA  
(IIT Bombay)

Sudipta MAITI  
(TIFR Mumbai)

Shivprasad PATIL  
(IISER Pune)

Sobhan SEN  
(JNU New Delhi)

### SPEAKERS (partial list):

Sarit S. Agasti  
Ruchi Anand  
Senthil Arumugam  
Tobias Baumgart  
A. C. Bhasikuttan  
Dhiraj Bhatia  
Debanjan Bhowmik  
Scott C Blanchard  
Amitabha Chattopadhyay  
Krishnananda Chattopadhyay  
Pranmit K. Chowdhury  
Arindam Chowdhury  
Yralima Cordeiro  
Thorben Cordes  
Debasis Das  
Dibyendu Kumar Das  
Tamal Das  
Jyotishman Dasgupta  
Ankona Datta  
Alberto Diaspro

Laura Zanetti Domingues  
Jorge Enderlein  
Marissa Martin Fernandez  
Cecile Fradin  
Katsumasa Fujita  
Mahipal Ganji  
Kanchan Garai  
Arne Gennerich  
Eric C. Greene  
Akash Gulyani  
Taekjip Ha  
Gilad Haran  
Martina Havenith-Newen  
Jelle Hendrix  
Elizabeth Hinde  
Martin Hof  
Hagen Hofmann  
Kunihiko Ishii  
Ajay Jha  
Hema Chandra Kotamarthi

A. Sri Rama Koti  
Oleg Krichevsky  
Sebastian Kruss  
Manoj Kumbhakar  
Don C. Lamb  
Eitan Lerner  
Sudipta Maiti  
Subhabrata Maiti  
Samir Maji  
Roop Mallik  
David Margulies  
Yves Mely  
Padmaja Prasad Mishra  
Maria-Andrea Mroginski  
Saptarshi Mukherjee  
Samrat Mukhopadhyay  
Sua Myong  
Sundar Ram Naganathan  
Deepak Nair  
Takakazu Nakabayashi

Maitheyi Narasimha  
Chandrabhas Narayana  
Sukhendu Nath  
Dan Oron  
Takuhiko Otsu  
Nibedita Pal  
Nagma Parveen  
Biswarup Pathak  
Abhijit Patra  
Ammasi Periasamy  
Juergen Popp  
Steve Presse  
Sabyasachi Rakshit  
Sanford Ruhman  
Hugo Sanabria  
Vahid Sandoghdar  
Dibyendu Kumar Sasmal  
Markus Sauer  
Saumya Saurav  
Igor Schapiro

Sobhan Sen  
Pratik Sen  
Shinsuke Shigetou  
Hari Shroff  
Priyanka Singh  
Prabhat K. Singh  
Trevor Smith  
George Stanciu  
Rajaram Swaminathan  
Tahei Tahara  
Shashi Thutupalli  
Yitzhack Tor  
Peter Torok  
Jayant B. Udgankar  
Ravindra Venkatramani  
Luuk Van Wilderen  
Thorsten Wohland  
Christopher Xu  
Martin T. Zanni  
Donatas Zigmantas

# INDIAN PHOTOBIOLOGY SOCIETY

Regd. No. : SO010422

Department of Chemistry, Jadavpur University, Kolkata 700 032.

(Affiliated to the Association Internationale de Photobiologie)

## Executive Committee (2023-2024)

### Patrons

Prof. Subhash Chandra Bera, JU, Chemistry (Retd)

Prof. Udaya Chand Biswal, Sambalpur Univ., Odisha (Retd)

Prof. Papiya Nandy, JU, Physics (Retd)

### President

Prof. Nitin Chattopadhyay, JU, Chemistry

### Vice-Presidents

Prof. Subhash Chandra Bhattacharya, JU, Chemistry (Retd)

Prof. Basanti Biswal, Sambalpur Univ., Odisha

Prof. Ashok Kumar Mishra, IIT, Madras

### Secretary

Prof. Chittaranjan Sinha, JU, Chemistry

### Treasurer

Dr. Gourisankar Roymahapatra, HIT, Haldia

### Members

Prof. Anindya Datta, IIT, Mumbai

Prof. Samita Basu, SINP (Retd)

Prof. Pradipta Purkayastha, IISER Kolkata

Dr. Harekrushna Sahoo, NIT, Raurkela

Dr. Hirak Chakraborty, Sambalpur Univ., Odisha

Prof. Sukhen Das, JU, Physics

Prof. Kishore CS Panigrahi, NISER, Odisha

Prof. Sivaprasad Mitra, NEHU, Shilong

### Members (Invited)

Prof. Kallol K Ghosh, Pt. Ravishankar Shukla University, Raipur

Prof. Pramit Chowdhury, IIT-Delhi

Prof. Sobhan Sen, JNU, New Delhi

Dr. Riffat John, University of Kashmir

### Jt. Convener, Kolkata Chapter

Prof. Swati De, Kalyani Univ., Chemistry

Dr. Sharmistha Dutta Choudhury, BARC, Mumbai

Mr. Pronab Bhowmick, JU (Retd)



# Indian Photobiology Society

Jadavpur University Campus, Kolkata 700032, India

Estd.: 1964 Regd. No. : S/10422

(Affiliated to the Association Internationale de Photobiologie)

**Mob:** +91-7044 231 277 & +91 9609 495 422

**E-mail:** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com) **Website:** <https://ipbsindia.in/>

## Life Membership Form

Paste  
Passport  
Size (Color  
Photo)

Name in full (Block Letter): \_\_\_\_\_

Official Address in full: \_\_\_\_\_

\_\_\_\_\_ PIN \_\_\_\_\_

E-mail: \_\_\_\_\_ Mobile: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Designation: \_\_\_\_\_

Academic Qualifications: \_\_\_\_\_

Field of research interest: \_\_\_\_\_

Name of IPS member you know: \_\_\_\_\_

Name of other persons known to you who may be interested to join IPS:

Name \_\_\_\_\_ affiliation \_\_\_\_\_

E-mail ID \_\_\_\_\_ Contact no \_\_\_\_\_

Declaration: I sending Rs./USD \_\_\_\_\_ (In words: \_\_\_\_\_)

for the **Life Membership / Foreign Life Membership** and I enclose herewith a Bank Draft / Online transaction receipt / CTS Cheque (Give detail: \_\_\_\_\_)

Date \_\_\_\_/\_\_\_\_/\_\_\_\_\_) in favor of **INDIAN PHOTOBIOLOGY SOCIETY MEMBERSHIP & SEMINAR** drawn on State Bank of India, Jadavpur University Branch, Kolkata, India.

Bank Detail: A/C Name: **INDIAN PHOTOBIOLOGY SOCIETY MEMBERSHIP & SEMINAR**

Account Number: **43185788862**, Bank: **State Bank of India**,

Branch: **Jadavpur University**, IFSC Code: **SBIN0000093**.

### Membership Type & Fees:

Life Membership (India) Rs.3100/- (Rs. 3000/- as fee and Rs.100/- for registration)

Life Membership (Foreign) USD 210/- (USD 200/- as fee and USD 10/- for registration)

- **Please attach (a) brief bio-data (b) Money Transaction Detail (c) Color Passport Size Photo (Soft Copy)**
- **Mail to: Prof. Chittaranjan Sinha, Secretary, Indian Photobiology Society, Department of Chemistry, Jadavpur University Campus, Kolkata 700 032, India E-mail: [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com) Mob: +91-7044-231-277 & +91 9609-495-422**

Date; \_\_\_\_/\_\_\_\_/\_\_\_\_

Place; \_\_\_\_\_

\_\_\_\_\_  
Full Signature of the Applicant



# Indian Photobiology Society

Jadavpur University Campus, Kolkata 700032, India

Estd.: 1964 Regd. No. : S/10422

(Affiliated to the Association Internationale de Photobiologie)

**Mob:** +91-7044 231 277 & +91 9609 495 422

**E-mail:** [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com) **Website:** <https://ipbsindia.in/>

## Student Membership Form

Paste  
Passport  
Size (Color  
Photo)

Name in full (Block Letter): \_\_\_\_\_

Official Address in full: \_\_\_\_\_

\_\_\_\_\_ PIN \_\_\_\_\_

E-mail: \_\_\_\_\_ Mobile: \_\_\_\_\_

Programme studying: \_\_\_\_\_ ( e.g. BSc, BTech, MSc, MTech etc.)

Programme duration: \_\_\_\_\_ ( e.g. 3 Yrs (BSc) 2023-2025)

Name of Institute / College / University: \_\_\_\_\_

Address: \_\_\_\_\_

Name of the HOD/ Institute Head: \_\_\_\_\_

Declaration: I am sending Rs./USD \_\_\_\_\_ (In words: \_\_\_\_\_)  
for the Student Membership and I enclose herewith a Bank Draft / Online transaction receipt / CTS  
Cheque (Provide detail: \_\_\_\_\_)

in favor of **INDIAN PHOTOBIOLOGY SOCIETY MEMBERSHIP & SEMINAR** drawn on State  
Bank of India, Jadavpur University Branch, Kolkata, India.

Bank Detail: A/C Name: **INDIAN PHOTOBIOLOGY SOCIETY MEMBERSHIP & SEMINAR**

Account Number: **43185788862**, Bank: **State Bank of India**,

Branch: **Jadavpur University**, IFSC Code: **SBIN0000093**.

Mail all the documents to: Secretary, Indian Photobiology Society, Jadavpur University Campus,  
Kolkata 700 032, India. E-mail: [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com) Mob: +91-70442 31277

### Membership Type:

Student Membership - Rs.300/- (Rs. 200/- as fee and Rs.100/- for registration)

[For student membership; renewal of the membership required after completion of one programme and  
taking admission in a new programme, and during renewal student need to pay only the membership fee.  
Student member have no voting right in council election]

- **Please attach (a) brief bio-data (b) Money Transaction Detail (c) Color Passport Size Photo (Soft Copy)**
- **Mail to: Prof. Chittaranjan Sinha, Secretary, Indian Photobiology Society, Department of Chemistry, Jadavpur University Campus, Kolkata 700 032, India E-mail: [indianphotobiology@gmail.com](mailto:indianphotobiology@gmail.com)  
Mob: +91-7044-231-277 & +91 9609-495-422**

-----  
Signature of Head of the Institute /  
HOD/ Dean /Chapter Coordinator/ with Stamp seal

-----  
Signature of the student

Date: \_\_\_/\_\_\_/\_\_\_\_

Place: \_\_\_\_\_