



# Department of Botany University of Calcutta

## Alumni Association News Letter August 14, 2019



সম্পাদকের দপ্তর থেকে :

রাশী পূর্ণিমার এই পুণ্য তিথিতে প্রাক্তনী সংস্থা'র বার্ষিক সম্মেলনে সকল সদস্যদের জানাই আন্তরিক অভিনন্দন। লোকসভা ভোট এবং গ্রীষ্মের এই প্রচণ্ড দাবদাহের কারণে আমাদের সম্মেলন একমাস পিছিয়ে দিতে হলো। ছয় ঋতুকে আর চিহ্নিত করা যায় না— এতদিন শীত, গ্রীষ্ম, বর্ষাকে আমরা উপভোগ করতে পারছিলাম। কিন্তু এবার বর্ষাঋতুও পশ্চিমবঙ্গ থেকে উধাও হয়ে গেল বলা চলে। উত্তরবঙ্গ ভেসে যাচ্ছে— রয়েল বেঙ্গল টাইগার নিরাপদ আশ্রয়ের খোঁজে মানুষের শোয়ার ঘরে ঢুকে ক্লান্ত হয়ে নিশিচিতে ঘুমিয়ে পড়ছে। ভবিষ্যতে শীতলতার খোঁজে আমরাও হয়তো বাঘের গুহায় হাজির হবো। প্রকৃতির এই খামখেয়ালীপনার জন্য মানুষই দায়ী। সুন্দরবন ধ্বংস করে হোটেল, রিসর্ট তৈরী হচ্ছে— কলকাতাকে লন্ডন বানানোর প্রচেষ্টায় গাছপালা কেটে জলাভূমি বুজিয়ে শপিংমল তৈরী হচ্ছে। উড়ালপুল করার জন্য কম গাছ ধ্বংস হয়নি। কয়েকদিন আগে শিবপুর বোটানিক্যাল গার্ডেন দেখতে গিয়েছিলাম। গার্ডেনের হতশ্রী দশা দেখে খুবই কষ্ট হচ্ছিল। বিশাল বটবৃক্ষকে রক্ষার জন্য চারিদিকে লোহার বেড়া দিয়ে ঘিরে রাখা হয়েছে। কারণ বটবৃক্ষের ডালে ছুরির ফলা দিয়ে কেটে নাম ও মোবাইল নাম্বার লেখার প্রতিযোগিতা বেড়ে যাচ্ছিল। গার্ডেনে অসংখ্য ছোট ছোট জলাধার আছে— এখন অবশ্য আছে না বলে ছিলো বলা ভালো। কচুরিপানায় সব ভরে আছে। বর্ষার ছিঁটে ফোটা জলও সেখানে ঢুকতে পারবে বলে মনে হয় না। দুই একটা জলাধার অবশ্য আংশিকভাবে দেখা যাচ্ছিল। আমাদের শহরের গাছের রক্ষণাবেক্ষণ করার দায় পুরসভার। পুরসভা রাস্তার ধার দিয়ে ফুটপাথে গর্ত করে ঘটা করে গাছ লাগালো। চারাগুলোকে প্রথমে কংক্রিটের বেদী এবং তারের জাল দিয়ে ঘিরে রাখা হলো। গাছটা বড় হতে শুরু করলে কিন্তু শিকড় বেশিদূর বিস্তার করতে পারলো না। বেদীর জন্য সে দুর্বল হয়ে পড়লো। সামান্য ঝড়ের দাপট সহ্য করার ক্ষমতা তার নেই। একটু ঝড়েই সে শিকড়শুদ্ধ উপড়ে পড়ে গেল। ওদিকে তারের জালগুলোর জন্য সে প্রস্থে বাড়তে পারছে না এবং জালগুলো মানুষের আবর্জনা ফেলার একটা জায়গা হয়ে দাঁড়ালো। তবে একটি আশার আলো গত ২৬শে জুলাই টেলিগ্রাফ পত্রিকায় একটি খবরে দেখলাম পুরসভা খুব শীঘ্রই গাছের বেদী ভাঙার কাজে হাত দেবে। শুভবুদ্ধির উদয় হোক। এবার আমাদের বিভাগের পুনর্মিলন উৎসব পালন করা সম্ভব হয়নি— নানা কারণে। তবে ২০২০ ফেব্রুয়ারীর প্রথম সপ্তাহে সেটা অনুষ্ঠিত হবে। একটি আনন্দের খবর— রি-ইউনিয়ন কমিটির একটা মোটা অংকের টাকা (৪.৪২ লাখ) নানান কারণে এস বি আই গরচা ব্রাঞ্চ-এ আটকে ছিলো। অনেক চেষ্টায় সেই টাকা পুনরুজ্জীবিত করে অ্যালুমনির আওতায় রি-ইউনিয়ন কমিটির নামে একটি অ্যাকাউন্ট খুলে সেখানে জমা করা হয়েছে। ২০২০ সালে আমাদের অ্যাসোসিয়েশনের নতুন পরিচালন সমিতি গঠনের পাল্লা— অর্থাৎ পাল্লা বদল। তাই আগামী '২০২০' সালটা খুবই গুরুত্বপূর্ণ। সকলের শুভকামনা করে আপাতত বিদায়। নমস্কার

— — — ইলা চৌধুরী।

3rd Issue 2019

# Events and Activities

## CELEBRATING THE BIRTHDAY OF PROF. A. K. SHARMA



Birthday celebration of our Late President Prof. A. K. Sharma was held on 31.12.2018, and on this occasion a seminar was held. Prof. Ruma Pal delivered a lecture, in this occasion.



## ALUMNI ADDA



Alumni adda was held on 12.01.2019 at the university guest house campus, Ballygunge Science College. About 53 alumni participated in the day long 'Adda' programme. The adda started with phulkopi and beguni, muri and hot tea/coffee. Several members participated in the different cultural events. This year many new members joined. The lunch was served not in a box, but on 'Joto khushi Khao' basis. The 'Adda' ended with tea and chanachur. It was a grand success.

## PROF. A. K. CHANDRA MEMORIAL FUND



The Secretary handed over a cheque to Rs. 1 lac to the Alumni secretary. The said amount was transferred to the account of Alumni Association. The amount was kept in fixed deposit, and the interest would be spent on seminar, workshop etc. in the name of Late Prof. A. K. Chandra.

## Honours and Awards



Prof. Swapan Kumar Datta FNA, FNSc, FNAAS, FTWAS has been awarded with the position of Distinguished Research Professor, DBT, Government of India.



Prof. Krishnendu Acharya was selected as Fellow of West Bengal Science Academy



Mousumi Roy, batch of 1994, and member of the executive committee of alumni association, is a proud recipient of the Commonwealth Scholarship and has recently completed her Post Graduation in Dementia Studies from The University of Stirling, UK. She also completed various open online courses in Dementia and Geriatrics from The University of Tasmania, Australia. She was honoured with the Late Rtn Shantanu Chatterjee Award by the Rotary Club of Kolkata for her contributions in the field of dementia and elderly care.

## BRIKSHAROPON



In the last AGM, the Alumni Association handed over a *Pinus Wallichiana* specimen to Dr. Debabrata Maity for our university garden. Two cannon ball plantlet was gifted to the Ballygunge Siksha Sadan School. The school is taking care of plantation in and around Ballygunge area. The vice principal of the school, Ms. Sudeshna Banerjee (our ex student) took care of the plantlets as a gift from Alumni Association.

## Students' achievement

4 students have qualified NET LS.

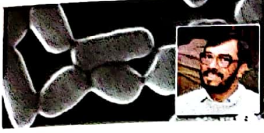
6 students of the department have cleared NET and 9 students have been selected in CSC

3 students have joined as faculty member in the University,

## Articles From Alumni Members

### New bacterium named after a former scholar Dr. Pradosh Roy

Dr. Sushanta Kumar Ghosh



Researchers from North Bengal University, Siliguri, Bose Institute, Kolkata, and Kalyani University, Kalyani, have identified a new genus of bacteria which can degrade a potent neurotoxin that has been responsible for several food-poisoning outbreaks. The researchers have named the new isolate Pradoshia eiseniae, as a tribute to their mentor, the late Indian microbiologist Pradosh Roy. Dr. Roy was a Post Doctoral fellow in the Microbiology Laboratory of this department in late 1980s.

Led by Ranadhir Chakraborty, Professor, North Bengal University, Siliguri, a group of researchers have identified a new genus of bacteria capable of degrading a fatal neurotoxin, 3-nitropropionic acid (3-NPA), produced by many plants and fungi. Prof. Pradosh Roy worked at the Department of Microbiology of Bose Institute from 1990 till his untimely death from cancer in 2005. In his short lifespan, he made pioneering contributions in the discovery of genes and regulatory elements essential for microbial sulfur oxidation. Roy was an extremely brilliant and innovative scientist, he interacted with his students like friends.

The hunt for a new species in the worm gut: Capable of crossing the blood brain barrier, 3-NPA irreversibly inhibits mitochondrial respiration causing involuntary muscle contraction. There are several reports of food poisoning outbreaks caused by this neurotoxin. Some cattle and worms can convert it to nontoxic forms with a little help from their ruminal microbes. The researchers cultured the gut content of redworm *Eisenia fetida* on laboratory media containing 3-NPA. From this, they were able to isolate 3-NPA consuming bacteria, even capable of surviving solely on a diet of this neurotoxin.

An all-round analysis of the isolate confirmed characteristics typical of spore forming members of the Bacillaceae family. However, there were enough differences from other known members of the family to demand that the new bacteria be classified into a separate genus and species. Decoding the bacterial genome sequence unveiled the presence of enzymes necessary to break 3-NPA. The genus of this new Bacillaceae has been named Pradoshia after Roy and the species eiseniae after the source organism *E. fetida*. This bacterium can offer a new approach in the food industry towards breakdown of 3-NPA. We have fond memories of Pradoshda who although not a Botany alumnus, was an integral part of our lab in late eighties. He made some path breaking contributions as a guide later in Bose Institute. Death took him away prematurely but his students would never let him be forgotten. Dr. Sushanta Kumar Ghosh Source : [indiabioscience.org/news/2019](http://indiabioscience.org/news/2019)

### EDWARD'S SILKMOTH



Octa Journal of Environmental Research April - June, 2019 International Peer-Reviewed Journal ISSN 2321

3655. Oct. Jour. Env. Res. Vol. 7(2): 038-039. A NOTE ON THE COLLECTION OF EDWARD'S SILKMOTH *ARCHAEOATTACUS EDWARDSII* (WHITE, 1859) FROM THE TEA GARDEN IN SIKKIM. Suresh Kumar Shaha, Prabir Ganguly, Viswa Venkat Gantaita. The present paper reports the Edward's Silkmoth *Archaeoattacus edwardsii* (White, 1859) in collection after a long span nearly two hundred years since collection of G.C. Dudgeon during 1800s from Sikkim. The study also confirms that this is first occurrence record of this species in Temi tea garden of Sikkim. 1 ex. (?), collected by Dr. Prabir Ganguly from Temi tea garden, Sikkim on 26.v.2016 (around 9.00 pm).

Prabir Ganguly

### Honours and Awards

1. Dr. Dipak Gayen has received the Fulbright Post Doctoral Fellowship while he was attached to this Department and currently he is positioned at Cornell University, US
2. Dr. Nusrat Ali has received a Swedish Post Doctoral Fellowship at Umea University, Sweden
3. Dr. Moumita Ganguly has been awarded with the position of a Research Scientist at Imperial College, UK
4. Dr. Kutubuddin Ali Molla has been a recipient of Fulbright Post Doctoral Fellowship this year and currently he is positioned at Penn State University, US
5. Congratulations to Ritesh Banerjee for the ISCA Young Scientist Award 2019. Ritesh is a PhD student working in the group of Prof Anita Mukherjee in collaboration with Dr Maumita Bandyopadhyay

### উত্তাপ

সুশান্ত কুমার ঘোষ

দেশটা জুড়ে কাহিল সবাই/ প্রচণ্ড উত্তাপ  
সকাল থেকে চড়ছে পায়দ/ বাড়ছে মনের চাপ।  
বোতলবন্দী তৃষ্ণার জল/ সেও হয়েছে তপ্ত  
বাসের সীট, দরজার রড/ ছুঁলেই হবে দন্ধ।  
দেশজুড়ে চলা ভোটযুদ্ধে/ ছড়াল যে উত্তাপ  
সেই উত্তাপ রেখে গেল কত/ নিষ্ঠুরতার ছাপ।  
নেতাদের জয়ী করতে গিয়ে/ সন্তান গেল মা'র।  
স্বামীহারা হল কত নারী আজ/ কত শিশু অনাথ।  
উর্ধ্বগতিতে দ্রব্যমূল্য/ বাড়িয়ে দিচ্ছে তাপ  
বিদ্যুৎ, জলে যাটতি হলে/ বেড়ে যায় উত্তাপ।  
বিত্ত  
বাতাসে বিষ ক্রমশ বাড়ছে/ নেই কোনো উত্তাপ।  
জলাশয়গুলো দূষণে কাহিল/ নেই কোনো উত্তাপ।  
কীটনাশক আর রাসায়নিকে/ ফসলে ঢুকছে বিষ,  
তারিখ পেরোনো ওষুধে রোগী/ মরছে অহর্নিশ।  
প্লাস্টিকের দূষণে উঠছে/ ধরার নাভিখাস  
তবুও তা নিয়ে জনতার মনে/ নেই কোনো উত্তাপ।

## CLIMATE CHANGE, ENVIRONMENTAL DEGRADATION BIODIVERSITY LOSS AND OUR COLOSSAL INDIFFERENCE

Shyamal K Chakraborty (1976-78)



The 2 degrees Celsius mark (above preindustrial levels) is held as a significant point for life on earth, and has traditionally featured strongly in climate discussions. Irreversible downward spiral from this point would begin taking humanity to uncharted territory. How it would melt polar ice caps, inundate coastal cities, bleach coral reefs, cause disease epidemics and crop failures, are already in school texts. They are also popular topics in essay competitions and quiz contests. The fact that a 100% increase has taken place since 1980 in greenhouse gas emissions, raising average global temperature by at least 0.7 degree, doesn't seem to bother us. The CDP Carbon Majors Report of 2017 states that only 100 fossil fuel producers since 1988 are responsible for 71% of total greenhouse gas emissions worldwide; that fossil fuel companies and their products have released more emissions in the last 28 years than in the 237 years prior to 1988. Most of these companies run the global supply chain and shape the demand for consumer goods through their control over advertising, social media and product design. Sadly, both the culprits and possible saviours are the same people: the corporate captains. And they are not convinced that any course correction from short-term profits to long-term survival is called for. The climate scientists today admit that they have failed to convince politicians, policy-advisers and economists that the issue is awfully serious. Many macro-economists treat carbon

emissions as a major "externality" – a market anomaly outside the main models – since growth and technology is somehow supposed to arrive at the right solution. The serious damage wrought on mother earth is not factored into their calculation of GDP that measures "progress." When you cut down a tree, only the cost of capital and labour is taken account and you leave out the irreplaceable cost of the tree slaughtered. Politicians couldn't bother less. Have we seen a single major political party in our country that includes environmental degradation in their election manifestos? We recall that as far back as 1981, late Prof Arun Kumar Sharma brought this issue to the notice of political masters through his presidential address at the 68th session of the Indian Science Congress. Subsequently a Department of Environment was created which has lately morphed into the Ministry of Environment, Forests and Climate Change. True, they have drawn up a slew of activities. But has it made any material difference to corporate greed or to our ominous nonchalance?

It is true that we celebrate World Environment Day on 5 June each year. In this annual ritual, in a festive mood accompanied by song, dance, poetry recitals, and of course small talk, we plant tree saplings. From the next day it is business as usual. We continue emptying plastic bottles and cans on the street with gay abandon or bring our car out even for a half-hour drive to the cool interiors of a shopping mall or treating the streets as a mega spittoon. Many among the intelligentsia, the cognoscenti or even the academics are aware that the 'Sixth Extinction' won't take place in their life-time or hopefully even that point' breathing down our neck. Never mind if Delhi or even our beloved 'city of joy' are among the top polluted cities in the world.

The climate pattern has already become erratic. Lately, each year seems to be unbearably hotter than last year. The city-goers return each day complaining of burning sensation in the eyes, dark-coloured phlegm and breathing problems. The Air Quality Index (AQI) which covers particulate matters, carbon monoxide, sulfur dioxide, nitrogen dioxide and ground-level ozone, are in for a steep downhill. Here are some facts. According to a report (CSE, State of India's Environment Report, 2019):

Air pollution is responsible for 12.5 % of all deaths in India.

Air pollution kills an average 8.5 out of every 10,000 children in India before they turn five. The risk is higher for girls as 9.6 out of 10,000 girls die before five ) There has been a 22 % increase in India's greenhouse gas (GHG) emissions between 2010 and 2014. Though India phased out ozone depleting substances such as chlorofluorocarbon by 2011, it shifted to substances such as hydrochlorofluorocarbon, which have high global warming potential. In 2018, 11 states in our country recorded major extreme weather events that claimed 1,425 lives.

India's natural gas and hydro-based power plants are in shambles. Gas-based plants are running at 24 % of their capacity due to the acute shortage of domestic natural gas. Hydropower projects, on the other hand, are running at just 19 per cent of their capacity and their share in total installed capacity has consistently declined since 1962. The country's progress in renewable energy in 2018-19 has also been dismal. With wind, the country met only 6.3 per cent of the target this year. In solar, it met only 5.86 per cent.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), at a meeting held between 29 April – 4 May in Paris, this year, issues a grave warning that humankind are fast eroding the very foundations of their economies, livelihoods, food security, health and quality of life worldwide; that it is "not too late to make a difference, but only if we start NOW at every level from local to global." It tells us that through 'transformative change', nature can still be conserved, restored and used sustainably. (Transformative change is a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values). The member States of IPBES Plenary also acknowledges that transformative change will face opposition from those with interests vested in the status quo; it also believes that such opposition can be overcome for the broader public good. The Report significantly draws (for the first time ever at this scale) on indigenous and local knowledge, particularly addressing issues relevant to Indigenous Peoples and Local Communities. It reaffirms that biodiversity is humanity's most enduring life-supporting safety net. Sadly, around 1 million animal and plant species are now threatened with extinction, many within decades, more than ever before in human history. The major reasons, in descending order of their global impact, are (1) changes in land and sea use; (2) direct exploitation of organisms; (3) climate change; (4) pollution and (5) invasive alien species. How long shall we remain indifferent? Will members of our distinguished alumni come forward? Say "thus far and no farther"?

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