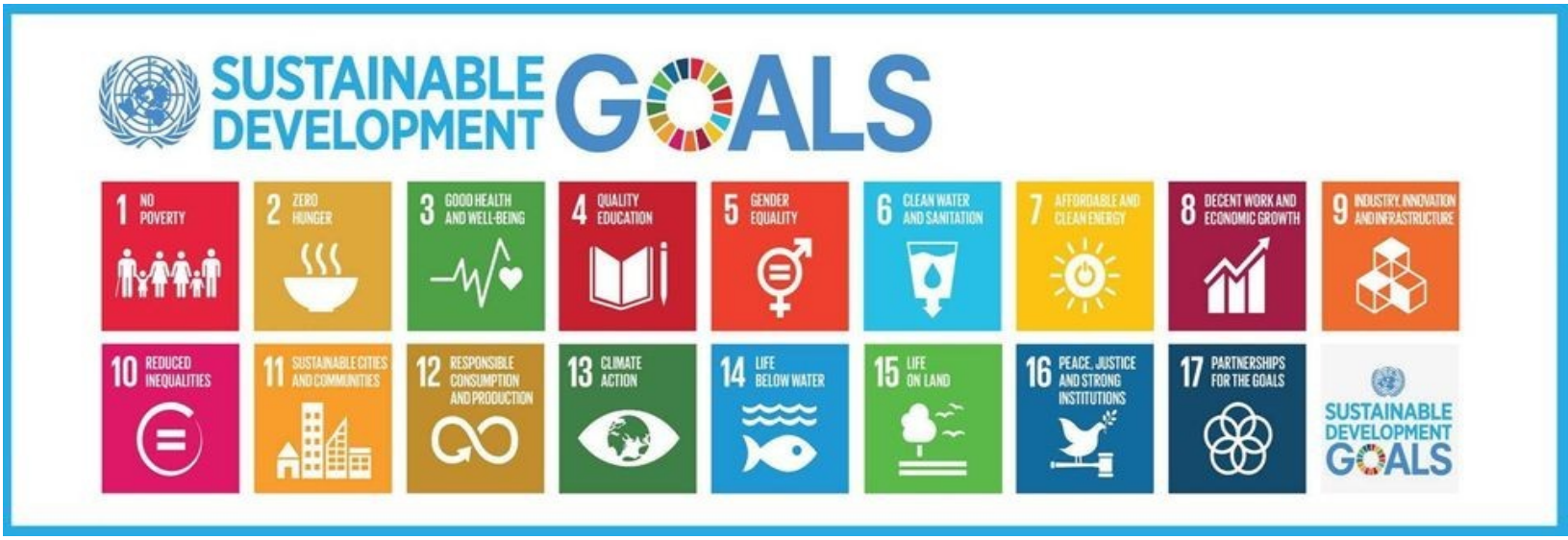
A Five Day International e-Conference

Sustainability Challenges & Transforming Opportunities: Amidst Covid19

July 26-30, 2020

Abstract Book



S.S.Khanna Girls Degree College, Prayagraj

(A Constituent College of the University of Allahabad) Awarded "A" Grade by NAAC with 3.46 CGPA

College with Potential for Excellence (CPE, Phase II):UGC

Under

Strengthening Component of Star College Scheme of DBT

Department of Biotechnology, Govt. of India

Disclaimer

This abstract book has been produced using author-supplied copy via conference organizer (First International e-Conference on Sustainability Challenges & Transforming Opportunities: Amidst Covid19). Editing has been restricted to some corrections of spelling and style where appropriate. The respective authors are responsible for the accuracy and authenticity of the material submitted by them. No responsibility is assumed for any claims, instructions, methods or policy contained in the abstracts: it is recommended that these are verified independently.

Note: This conference was scheduled on 26th-30th July 2020 with virtual mode.

Contents

Abstract of Resource Persons

Abstract of Participants

About the Conference

Our environment is the gateway to the progress and prosperity of humankind. Its sustenance stands crucial to our very existence. The efforts towards its sustainability assume importance in the light of its reckless exploitation by those who already have bountiful, leaving the poor and the under-privileged more vulnerable. It is a paradox, that though nature bestows, upon the entire humanity, equal freedom to use its resources for the satiation of one's need, still discrimination, inequalities, injustice, want, hunger and poverty persist. To eradicate these imbalances and sustain resources for future generations as well, the United Nations along with all its Member States adopted 17 Goals in 2015, as part of the 2030 Agenda for Sustainable Development. It set out a 15-year plan to achieve the Goals in an endeavour to protect the planet and improve the lives and prospects of everyone, everywhere. But, the outbreak of the COVID-19 pandemic has caught us unawares and dealt a severe blow to the tasks being carried out, throughout the globe. The march towards sustainability goals is now faced with a new challenge - to seek sustenance in an environment embedded with COVID19. The situation enjoins upon us to reset our priorities and reallocate our resources. The tasks ahead lie at two levels- to deal with **the present state** wherein human lives are being lost each day and the ones alive are striving to keep afloat and at the second level- designing policy for **new normal.** The new scenario makes it peremptory to discuss and deliberate upon issues related to the environment, health, dispensation of justice, transforming challenges into opportunities in the socio-economic and educational sector and thereby seek a solution to emerge out of existing conditions, make thrust upon making a roadmap for the future course of action and emphasize the adoption of the change in the behaviour of individuals to keep the psychology of sustainability intact and the wheel of, its attainability, rolling.

Objectives of the Conference

- To discuss the impact of the pandemic on the efforts to attain sustainability goals
- To deliberate upon the need to reset priorities in the process of attainment of sustainability goals
- To explore the alterations in the socio-economic norms and practices due to outbreak of the pandemic.
- To explore the need for re-allocation of financial resources amidst the present unforeseen situation
- To deal with building up of measures for creation of a robust and resilient society
- To explore the role of law and it's effectiveness in the sustenance of sustainable development.

International e-Conference
on
"Sustainability Challenges & Transforming Opportunities:
Amidst Covid19"

ADVISORY BOARD

CHIEF PATRON
Prof. R. R. Tewari
Vice Chancellor
University of Allahabad

PATRON
Dr. Asha Seth
Chairperson
Governing Body

Dr. Garima Gupta
Scientist E,
Department of Biotechnology
Ministry of Science
&Technology,
New Delhi-110003 &
Programme Officer,
Star College Scheme of DBT

Prof. M L Nath
Director,
IEHE Bhopal (MP) &
UGC member,
Advisory Committee (CPE),
SSKGDC

Prof. Namita Singh
Director, Department of Bio &
Nano Technology
Guru Jambheshwar Universityof
Science & Technology;
Hisar, Haryana &
UGC member, Advisory
Committee (CPE), SSKGDC

Prof. Jagdamba Singh
Ex. Head and Dean
Department of Chemistry
University of Allahabad
Prayagraj (UP) &
Member, Governing body;
SSKGDC

Prof Ramendra K Singh
Department of Chemistry
&
Controller of Examinations
University of Allahabad
Prayagraj (UP)

Prof R K Chaubey
Dean
Faculty of Law
University of Allahabad
Prayagraj (UP)

Prof Dhananjay Yadav
Head, Department of
Education
University of Allahabad
Prayagraj (UP)

Prof. Ashish Saxena
Head, Department of Sociology
University of Allahabad
Prayagraj (UP)

Prof Ajay Pratap
Ex. Head, Department of History
Banaras Hindu University,
Varanasi (UP)

Prof AK Bajpai
Department of Chemistry
Govt. Model Autonomous
Science College
Jabalpur (MP)

Dr Ravi Tandon
Assistant Professor
School of Biotechnology (SBT)
Jawaharlal Nehru University
New Delhi

International *e*-Conference on
"Sustainability Challenges & Transforming Opportunities :
Amidst Covid 19"

Conference Director
Prof. Lalima Singh
Principal

Coordinator
Star College Scheme of DBT
Dr. Archana Jyoti
Department of Chemistry

Conveners

Dr. Jyoti Baijal
Department of Teacher Education

Dr. Anuradha Singh
Department of Chemistry

Organising Secretaries

Dr.Preeti Singh
Department of Botany

Dr. Sippy Singh
Department of Zoology

Dr. Nishi Seth
Department of Ancient History

Dr. Arifa Begum
Department of Urdu

Organising Committee

Dr. Alok Malviya
Department of Botany

Dr. Shikha Agrawal
Department of Commerce

Dr. Richa Tandon
Department of Botany

Dr. A. Rahman
Department of Biotechnology

Dr. Sumita Sahgal
Department of Chemistry

Ms. Subodhika Sharma
Department of Law

Dr. Shubhra Malviya
Department of Zoology

Dr. Ravi Kant Singh
Librarian

International *e*-Conference
"Sustainability Challenges & Transforming Opportunities: Amidst Covid19"

Eminent Speakers

PROF. A.K. BAKHSHI
Vice-Chancellor
PDM University
Bahadurgarh
Haryana, India

DR. SUNAINA GOWAN
Deputy Head
School of Business
Excelsia College
Sydney, Australia

DR. SEYED T.H. ABEDI
MBBS, M.Sc, FCAP, FRCPC
The Scarborough Hospital
Birchmount Campus
Ontario, Canada

PROF UNNAT P. PANDIT
Jawahar Lal Nehru University
Formerly Programme Director
Atal Innovation Mission
NITI Aayog, New Delhi

DR. PREM PRAKASH YADAV
Principal Scientist
Division of Medicinal and
Process Chemistry, CSIR-CDRI
Lucknow, India

PROF. K.V. BHANUMURTHY
Former
Dean Faculty of Commerce
Delhi School of Economics
University of Delhi
New Delhi, India

DR. RAJESH K SINGH
Laboratory Director
of R&D
Abzyme Therapeutics
PA, USA

MR. THOMAS P. VALENTI
Senior Attorney
Attorney, Arbitrator (ACI Arb),
Mediator, Facilitator
Chicago, IL, USA

DR. NAMITRANJAN
Research Scientist
Dept of Physical Biochemistry
Max Planck Institute for
Biophysical Chemistry
Göttingen, Germany

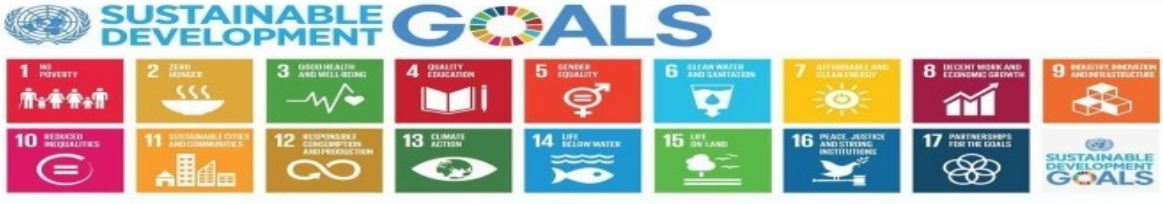
PROF. TARUN ARORA
Dean, Dept of Law
School of Legal Studies
Central University of
Punjab
Bathinda, India

DR. FELIX BAST
Associate Professor
Department of Botany
Central University of Punjab
Bathinda, India

DR. MOHD RIHAN
Department of
Electrical Engineering
Aligarh Muslim University
Aligarh, India

DR. SANDEEP K. SHUKLA
Quality Manager & Research Officer
Wainganga Water Quality Laboratory
Central Water Commission
Nagpur, India

PROF. S. G. VENKATASUBRAMANIAN
ENVIRONMENTAL LAW & MANAGEMENT
Anna University
Chennai, INDIA



Message

15th July 2020

I am very pleased to know that S.S. Khanna Girls' Degree College, Prayagraj (a constituent college of the University of Allahabad) is organizing a *Five-Day International e-Conference on Sustainability Challenges and Transforming Opportunities: Amidst Covid 19* during July 26-30, 2020 under the Star College Scheme of the DBT, Govt. of India.

The importance of sustainability in our life hardly needs any emphasis. In simplest terms, the word sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. These needs are not only with respect to natural resources but also with respect to social and economic resources. To conserve and enhance these resources one needs sustainable development with a focus on gradually changing the ways in which we develop and use these resources. Realizing the importance of sustainable development and in an endeavour to protect the planet and improve the lives and prospects of everyone, everywhere, the United Nations along with all its Member States adopted 17 Goals in 2015, as part of the 2030 Agenda for Sustainable Development. The sudden outbreak of the corona pandemic, however, has dealt a very severe blow to the march towards these sustainability goals and brought about innumerable sustainability challenges before the world. This international e-Conference, which aims to bring together renowned international experts on a single platform, will address the various issues concerning the pursuit of sustainable development in this changed scenario.

I wish this conference all the best and urge all the participants to brainstorm the various thrust areas of the conference. I sincerely hope that this conference will be a foundation for the growth of new ideas towards a better and sustainable future.

Prof. (Dr.) A.K.Bakhshi
Vice-Chancellor
PDM University
Bahadurgarh, Haryana
Former Executive Director, Tertiary Education Commission, Mauritius
Vice-Chancellor, UPRTOU, Allahabad, India
Former Sir Shankar Lal Professor of Chemistry, University of Delhi
akbakhshi2000@yahoo.com, vc@pdm.ac.in

Message

20th July 2020

We are indeed privileged and delighted to host first multidisciplinary five day s International e-conference on "Sustainability Challenges &Transforming Opportunities: Amidst Covid19" Under Strengthening Component of Star College Scheme of DBT; Department of Biotechnology, Govt. of India on July 26-30, 2020, a theme highly relevant in the present circumstances.

It's a wake-up call for us to execute proper steps to save our future in pandemic situations. The conference has been planned to deliver the most important aspect of sustainability with an emphasis on the intelligent use of resources to meet the needs of the present without compromising with the future.

This conference will provide a platform for the vibrant mind to interact with fellow researches and veterans of the research.

Let us start with imparting knowledge of wisdom that leads to eternal peace. On the behalf of the college, I cordially welcome all the delegates with the hope that all of us will enjoy the academic endeavour and feel enriched with new ideas.

Prof. (Dr.) Lalima Singh
Principal
SS Khanna Girls' Degree College
Prayagraj (UP)

About the College

Sadanlal Sanwaldas Khanna Mahila Mahavidyalaya, Prayagraj, was established in the International year for Women, 1975, with a vision of empowering women education. The college has grown from a single faculty to composite institution wherein education is being imparted in the faculty of Arts, Science, Commerce, Teacher- Education and Law at the under-graduate and post-graduate level. The college is exclusively for women and aims to cater the needs of students belonging to diverse socio-economic backgrounds, to cultivate moral, intellectual, spiritual, social, and emotional values for all-round development of the students. The Institution is a Constituent College of the Central University of Allahabad and is completely equipped with all modern amenities in a beautifully architectured building. It is popular among students willing to receive a quality education through an experienced team of faculty. It has been accredited with **CGPA of 3.46 on a four-point scale at "A" Grade** in 2014. The college has been awarded the status of **"College with Potential for Excellence"** by UGC. With continuous efforts to move towards excellence the three departments of the college viz Chemistry, Botany and Zoology, have been selected under **strengthening component of DBT star college scheme** in 2019-20.

Star College Scheme of DBT

Star College Scheme has been initiated by DBT in 2008 to support colleges and universities offering undergraduate education to improve science teaching across the country. DBT is committed to the values of i) Pursuit of excellence ii) Academic and intellectual freedom iii) Creativity and innovation iv) Diversity v) Cooperation and Communication & vi) accountability. DBT has, therefore, launched a scheme for improving critical thinking and 'hands-on' experimental work at the undergraduate (college) level in sciences. It is expected to encourage, more students to take up higher education in science. DBT will identify colleges with ambition and potential for excellence and provide academic and physical infrastructure for achieving excellence in teaching and unique exposure of students to experimental science. Department has supported around 200 undergraduate colleges across the country in the past 9 years. Apart from financial support, colleges have benefited tremendously from guidance received in Advisory Committee Meetings, mentoring, Task Force Meetings and learning from peers in other colleges.

PROGRAMME SCHEDULE

Day One 26 July 2020
Inaugural Session

Welcome Address
PROF. LALIMA SINGH
Conference Director & Principal; SSKGDC

Theme Presentation
DR. JYOTI BAIJAL
Conference Convener &Assistant Professor,

Department of Teacher Education, SSKGDC

Keynote Address
PROF. A.K. BAKHSHI
Vice-Chancellor, PDM University; Bahadurgarh, Haryana, India
"The Changing Face of Higher Education in India: Challenges and Opportunities"

Guest of Honour
DR. GARIMA GUPTA
Scientist E, Programme Officer, Star College Scheme of DBT Ministry of Science & Technology (Government of India) New Delhi, India

Vote of Thanks
DR. ARCHANA JYOTI
Associate Professor; Department of Chemistry &
Coordinator, Star College Scheme of DBT, SSKGDC

Session Coordinator
DR. ANURADHA SINGH
Conference Convener &
Assistant Professor; Department of Chemistry, SSKGDC

TECHNICAL SESSION I
Theme: Educational Sustainability

Chairperson
PROF. DHANANJAY YADAV
Head, Department of Education; University of Allahabad Prayagraj (UP) India

Speaker
DR. SUNAINA GOWAN
Deputy Head, School of Business Excelsia College Sydney, Australia
"Education as a means to the creation of a resilient society"
Session Coordinators: Dr Jyoti Baijal & Dr A. Rahman

TECHNICAL SESSION II
Theme: Environmental Sustainability

Chairperson
PROF. ANIL KUMAR BAJPAI
Bose Memorial Res Lab Department of Chemistry;
Govt. Autonomous Science College Jabalpur (MP) India

Speaker
DR. SANDEEP K. SHUKLA
Central Water Commission, Nagpur, India
"Water quality management: Effect on water quality due to lockdown"
Session Coordinators: Dr Sippy Singh & Dr Shubhra Malviya

TECHNICAL SESSION III
Theme: Health Sustainability

Chairperson
PROF. RAMENDRA K. SINGH
Bioorganic Res Lab Department of Chemistry & Controller of Examinations**;**
University of Allahabad Prayagraj (UP) India

Speaker
DR. RAJESH K SINGH
Laboratory Director of R&D, Abzyme Therapeutics**,** PA, USA
"COVID-19 Pandemic and USA"
Session Coordinators: Dr Alok Malviya & Dr Anuradha Singh

Day Two (July 27, 2020)

TECHNICAL SESSION I

Theme: Health Sustainability

Chairperson

PROF. ANIL KUMAR BAJPAI

Bose Memorial Res Lab Department of Chemistry;
Govt. Autonomous Science College Jabalpur (MP) India

Speaker

DR. SEYED T.H. ABEDI

MBBS, M.Sc, FCAP, FRCPC, Physician;
The Scarborough Hospital, Birchmount Campus, Ontario, Canada
"How to live with COVID-19: prevention, symptoms/signs, treatment and status of Vaccine" Session Coordinators: Dr Nishi Seth & Dr Arifa Begum

TECHNICAL SESSION II

Theme: Environmental Sustainability

Chairperson

PROF. R. K. SRIVASTAVA

Head, Department of Environment Science
Govt. Autonomous Science College Jabalpur (MP) India

Speaker

DR. FELIX BAST

Associate Professor, Department of Botany
Central University of Punjab; Bathinda, India
"*SDGs at a personal level: Transition towards the citizen of the globe and creature on earth*"
Session Coordinators: Dr Anuradha Singh Dr Jyoti Baijal

TECHNICAL SESSION III

Theme: Environmental/Health Sustainability

ORAL PRESENTATION

Chairperson

DR. ARCHANA PANDAY

Department of Chemistry; CMP Degree College; Prayagraj (UP) India

&

DR. SARITA SRIVASTAVA

Department of Botany; CMP Degree College; Prayagraj (UP) India Session Coordinators: Dr Preeti Singh, Dr Anuradha Singh & Dr A. Rahman

Day Three (July 28, 2020)
TECHNICAL SESSION I
Theme: Environmental Sustainability

Chairperson
PROF. INDIRA MEHROTRA
Former Head, Department of Physics University of Allahabad; Prayagraj (UP) India

Speaker
DR. MOHAMMAD RIHAN
Department of Electrical Engineering Aligarh Muslim University
"Sustainable Development Goals and Green Sources of Electric Energy"
Session Coordinators*:* Dr Shubhra Malviya & Dr A. Rahman

TECHNICAL SESSION II
Theme: Health Sustainability

Chairperson
PROF. NAMITA SINGH
Director; Department of Bio & Nano Technology Guru Jambheshwar University of Science & Technology; Hisar, Haryana

Speaker
DR. NAMIT RANJAN
Research Scientist; Dept of Physical Biochemistry; Max Planck Institute for Biophysical Chemistry; Göttingen, Germany
"Contribution of Basic Science in Disease Prevention"
Session Coordinators: Dr Anuradha Singh & Dr Sippy Singh

TECHNICAL SESSION III
Theme: Socio-economic/Education Sustainability

ORAL PRESENTATION
Chairperson
DR. ANUJA SALUJA
Department of Education; Iswar Sharan Degree College; Prayagraj (UP) India
&
DR. KAJAL DEV
Department of Education; Jagat Taran Degree College; Prayagraj (UP) India
Session Coordinators: Dr Jyoti Baijal; Dr Nishi Seth& Dr Arifa Begum

Day Four (July 29, 2020)

TECHNICAL SESSION I

Theme: Health Sustainability

Chairperson

PROF. SHANTY SUNDARAM

Centre for Biotechnology, University of Allahabad Prayagraj (UP) India

Speaker

DR. PREM PRAKASH YADAV

Principal Scientist;CSIR-Central Drug Research Institute

"Recent Advances in Drug Repurposing for Combating SARS-CoV-2"

Session Coordinators: Dr Archana Jyoti & Dr Sumita Sahgal

TECHNICAL SESSION II

Environmental/Health Sustainability

ORAL PRESENTATION

Chairperson

DR. NEERJA KAPOOR

Department of Zoology CMP Degree College Prayagraj (UP) India

DR. JUSTIN MASIH

Department of Chemistry Ewing Christian College; Prayagraj (UP) India Session Coordinators: Dr Anuradha Singh Dr Sippy Singh & Dr A. Rahman

TECHNICAL SESSION II

Theme: Legal Sustainability

Chairperson

PROF. SHAKEEL SAMDANI

Dean; Faculty of Law; Aligarh Muslim University Aligarh (UP) India

Speaker

MR. THOMAS P. VALENTI

Senior Attorney; Attorney, Arbitrator (ACIArb), Mediator, Facilitator Chicago, IL, USA

"Alternative Dispute Resolution in the COVID-19 Era"

Session Coordinators: Ms. Subodhika Sharma Dr. Nishi Seth

TECHNICAL SESSION IV

Theme: Socio-economic Sustainability

Chairperson

PROF. ASHISH SAXENA

Head, Department of Sociology University of Allahabad Prayagraj (UP)

Speaker

PROF. UNNAT P PANDIT

Director, Atal Innovation Mission; Niti Aayog, Sansad Marg, New Delhi

"Atamnirbhar Bharat- Role of Youth in Societal Transformation"

Session Coordinators: Dr Jyoti Baijal & Ms Subodhika Sharma

Day Five (July 30, 2020)

TECHNICAL SESSION I

Theme: Environmental and Legal Sustainability

Chairperson

PROF. PRAHLAD KUMAR

Former Dean; Faculty of Commerce Former Head; Department of Economics

Speaker

PROF. S. G. VENKATASUBRAMANIAN

Environmental Law & Management Anna University; Chennai, INDIA

"The role of Legal Regime in India and the International level : its effectiveness for the sustenance of sustainable development"

Session Coordinators: Dr Sippy Singh & Ms Subodhika Sharma

Day Five (July 30, 2020)

TECHNICAL SESSION II

Theme: Legal Sustainability

Chairperson

PROF. PRAHLAD KUMAR

Former Dean; Faculty of Commerce; Former Head; Department of Economics

Speaker

DR. TARUN ARORA

Professor, Department of Law Dean, School of Legal Studies

Central University of Punjab, Bathinda, India

"Sustainable Development Goals, Constitutional Values and Environment Education"

Session Coordinators: Ms. Subodhika Sharma & Dr. Jyoti Baijal

TECHNICAL SESSION III

Socio-economic/Legal Sustainability

ORAL PRESENTATION

Chairperson

DR. SUSHMA SHARMA

National Law Institute University Bhopal (MP) India

Session Coordinators: Ms Subodhika Sharma Dr Nishi Seth & Dr Arifa Begum

Valedictory Session

Welcome

PROF. LALIMA SINGH

Conference Director & Principal

Valedictory Address

PROF. K.V. BHANU MURTHY

Former Dean Faculty of Commerce Delhi School of Economics

University of Delhi; New Delhi, India

Report of the e-Conference

DR. ARCHANA JYOTI

Associate Professor; Department of Chemistry &

Coordinator, Star College Scheme of DBT, SSKGDC

Vote of Thanks

DR. ANURADHA SINGH

Conference Convener & Assistant Professor; Department of Chemistry, SSKGDC

Session Coordinator

DR. JYOTI BAIJAL

Conference Convener &Assistant Professor, Department of Teacher Education, SSKGDC

Keynote Address

THE CHANGING FACE OF HIGHER EDUCATION IN INDIA: CHALLENGES AND OPPORTUNITIES

A. K. Bakhshi
Vice-Chancellor
PDM University, Bahadurgarh, Haryana
Email: akbakhshi2000@yahoo.com

The hallmark of an education system is that it must change with the changing times. Accordingly, Indian Higher Education is presently undergoing a big transformation to meet the challenges of the 21st century and to ensure high-quality education which is the basis of sustainable development. The major challenges to the higher education in India include growth of knowledge in all disciplines; enhancing the quality of education with a focus on thinking, innovation and creativity; the dearth of creative minds and the need to integrate Information and Communication Technology (ICT) with higher education. During the last few years, the increasing use of ICT in higher education in India has slowly but significantly changed the way education is imparted at present. It has provided answers to the growing demands for enrolments in higher education by increasing Gross Enrolment Ratio (GER), enhanced the quality of education through MOOCs and new pedagogies such as blended learning and the flipped classroom, changed the face of distance education in the country, made high-quality education available to the masses at the click of a mouse, enabled vast literature survey possible through the use of electronic databases for research, given a new face to the professional development of faculty through ARPIT programs and created possibilities for personalized and adaptive learning through the use of artificial intelligence.

The realization now seems to have dawned on the teaching community that integration of ICT with higher education is essential if we really want to create a holistic learning environment focusing on quality, innovation, expansion, excellence and inclusion. ICT, if used creatively, has the potential to make a big difference in the way teachers teach and students learn and can help students acquire 21st-century skills like *digital literacy, innovative and critical thinking, creativity, sound reasoning and effective communication.* Both the teachers and the students must embrace ICT and become tech-savvy so that they can perform their new respective roles in this changed scenario of higher education much more effectively and efficiently.

Earlier positions*: Sir Shankar Lal Professor of Chemistry, University of Delhi; Vice-Chancellor, UPRTOU, Allahabad and Executive Director, Tertiary Education Commission (TEC), Mauritius.*

Prof. (Dr.) A. K. Bakhshi

Prof. A.K.Bakhshi is the Founder Vice-Chancellor of PDM University. He was Executive Director of Tertiary Education Commission (TEC), Mauritius (a post equivalent to that of Chairman, UGC in India) during October 2013 – February 2015. He has been Vice-Chancellor of U.P. Rajarshi Tandon Open University (UPRTOU), Allahabad for more than two years (2011–13). Prof. Bakhshi held the prestigious Sir Shankar Lal Chair of Chemistry in the University of Delhi for more than two decades and was also Head, Department of Chemistry, the University of Delhi during May 2010– August 2011.

Prof Bakhshi is also Chairman of Centre for e-Learning as well as Chairman of Guru Angad Dev Teaching – Learning Centre (a Centre of the MHRD Govt. of India) both located at SGTB Khalsa College, University of Delhi. Prof. Bakhshi is also the Chairman of the National Resource Centre of Chemistry of the MHRD. He was also Chairman of the National Science Digital Library (NSDL) project in Chemistry of the CSIR. Prof. Bakhshi has also been a Member of the Standing Committee of the National Mission on Education through ICT (NMEICT). He was also the Chairman of the Content Advisory Committee for Chemistry for SAKSHAT portal of the MHRD, Govt. of India. Prof. Bakhshi has also been the Director of the Institute of Lifelong Learning (ILLL), University of Delhi and the Centre for Professional Development in Higher Education (CPDHE), a UGC Academic Staff College of the University of Delhi for about three years (2008 – 2010). Prof. Bakhshi has also the distinction of being one of the first persons from the Universities in India to have been selected as the Member Scientist of the "Third Indian Research Expedition to Antarctica" in 1984.

A double gold medalist of Delhi University, Dr Bakhshi did his post-doctoral training at the University of Erlangen-Nurnberg, Germany with Prof. J. Ladik and at the Kyoto University and the Institute of Fundamental Chemistry, Kyoto, Japan with Professor K. Fukui, the Nobel Laureate and Prof. T.Yamabe. He has also been a Visiting Scientist at the Tata Institute of Fundamental Research (TIFR), Mumbai and the Indian Institute of Science (IISc), Bangaluru. Prof. Bakhshi's research interests include theoretical polymer chemistry with special reference to electrically conducting polymers and biopolymers. He is the author/coauthor of about 170 research and education articles etc. and one patent. He has to his credit eleven books as author/co-author and many as editor/chairman/ convener of the working group. His other interests include innovation in science education, ICT in higher education, e-Learning and MOOCs.

Prof.Bakhshi has been a recipient of several awards and academic honours. These include amongst others: World Education Award, Haryana Ratan Award, Bharat Jyoti Award, Fellowship of the IUPAC; Lifetime Achievement Award by IAEWP, Guest of Honour at the 26th IGNOU Convocation at Varanasi, Felicitation at the Centenary Celebration of Vigyan Parishad Prayag, Distinguished Teacher Award; National Education Award by Headlines Today News Channel; Bioved Honorary Fellowship, Chemical Research Society of India (CRSI) Medal; Fellowship of the National Academy of Sciences (FNASc); JSPS Fellowship; DAAD Fellowship; INSA Research Fellowship; UGC Career Award; Prof. P.K.Bose Memorial Award of the Indian Chemical Society, Best Paper Award in the field of Chemical Sciences from DAAD; Young Chemist Award; Dr Krishan Rao Gold Medal, Dr R. D. Desai Award of the Indian Chemical Society, Prof. R.P. Mitra Gold Medal, ISCA Best Poster Awards of the Indian Science Congress Association for the years 2012 and 2015. India Didactics Association (IDA) 2014 Special Award for excellence in Digital Content in Education for our template etc. Prof Bakhshi was awarded Capital Foundation National Award for distinctive and outstanding contribution to Education by former President of India Dr APJ Abdul Kalam (December 2011). Prof. Bakhshi is presently very actively engaged at the national level in the development of e-content and MOOCs under Digital India initiative of the Govt. of India.

Prof. Bakhshi has also been elected as the President of the section of the Chemical Sciences of the Indian Science Congress Association (ISCA) for the year 2011-12. Prof. Bakhshi has been a member of the editorial board of the Indian Journal of Chemistry (Section A). He has also been the member of the editorial board of the Journal of Scientific and Industrial Research published by the CSIR and also the Chief-Editor of the UGC-sponsored journal Chemistry Education Review. He was also co-guest editor of the special issue of the Indian Journal of Chemistry on Conducting Polymers.

Prof. Bakhshi has delivered many Talks / Plenary Lectures / Keynote Addresses at various conferences and seminars both in India and abroad. He has also Chaired Technical Sessions at various national/international conferences. He has also been very actively involved in the organization of many conferences, workshops and seminars at the national/international level.

Theme: Educational Sustainability

EDUCATION AS A MEANS TO THE CREATION OF A RESILIENT SOCIETY

SUNAINA GOWAN
Deputy Head
School of Business; Excelsia College
Sydney, Australia
Email: Sunaina.Gowan@excelsia.edu.au

In 2012 at the United Nations Conference on Sustainable Development in Rio de Janeiro we were asking whether the world can become a better place and whether we could end hunger and poverty and put a halt to climate change by 2030. The answer then was yes probably we can; however today the world we live in during the pandemic is a different place. The 17 Sustainable Development goals were developed, and they are what we as humanity want to be. Of the 17 goals, there are 169 targets. All of these 17 goals fit into the triple bottom line approach. They highlight the basic needs of humans throughout the world. They were launched and adopted in September 2015 by all 193 UN member states. The aim was to fundamentally transform the planet. They are a universal agenda and the aim is to leave no one behind. It is an ambitious plan for people planet and prosperity. The SDG's cover a wide range of triple bottom line or socio-economic and environmental challenges and therefore addressing them will require a transformation in how we interact with the planet. Hence, they have strong relevance to tertiary education which can help disseminate the information.

We are at a stage where we need to provide solutions to the issues and problems facing us today. Essentially focusing on the cradle to cradle approach is of prime importance. Education providers and businesses should become active agents in solving real-life problems by concentrating efforts in building teams of different fields. Initiatives can be made by students to become change agents. It begins with thinking about how they can contribute to the community. A university student can play a big role in promoting sustainability. Educational institutions are among the most influential actors in the world as they shape the skills and mindset of future leaders.

The education sector drives societal and technological progress through research and discovery and thereby play an important role in national innovation. It has curious students and academics with professional skills and capabilities. They will create future leaders and entrepreneurs as well as build knowledge within the communities. They can guide the local and national governments by advocating the importance of the SDG through cross-sectoral dialogues. By providing SDG related education, the institutions can create graduates who can build the country's SDG agenda.

The main aim of this paper is to examine the role of Universities and Colleges in overcoming the social, economic, and environmental challenges that may transform how we interact with the planet. Focusing on developing collaborative relationships between industry, government, communities, private sector, NGO's and education providers this paper seeks to investigate how the tertiary education sector can make significant contributions to the achievement of the SDG. Educational institutions are major players, consumers, investors, and employers. The grim crises are still unfolding. As countries begin to move towards recovery, coherent actions can place the world on a robust trajectory towards achieving sustainable development

Dr SUNAINA GOWAN

Dr Sunaina Gowan is the Deputy Head, School of Business at Excelsia College. She is an experienced academic with over twenty-one years of teaching experience, in the area of Management. Previously, she has held a variety of academic positions at various institutions in Australia including Western Sydney University, Federation University and as Lead Lecturer Management at Curtin University, Sydney campus. Dr Gowan has a highly developed expertise in team leadership, curriculum development and design; with extensive experience in lecturing, guiding and supporting domestic and international students. She is currently teaching classes in Management and supervises PhD and Masters Students on projects spanning workplace spirituality as well as student well-being. Sunaina is a member of the Academic Board and Research Committee at Excelsia College. Sunaina is also co-founder and ex-President of Lean In Incorporated - a not-for-profit, community-based organisation dedicated to supporting newly arrived migrant women to Australia. She has been successful in securing a grant from the Minister for Multiculturalism, under the 2017/18 Multicultural NSW Grants Program – Unity. She is Director of the AIBC Internship Program for International students in Sydney.

Sunaina has a PhD in Management from Western Sydney University and also holds a Masters degree in Business Administration with specialisation in Human Resource Management and a Master of Information Systems from the University of Ballarat. She has done a Graduate Certificate in Tertiary Education from Federation University and a Graduate Certificate in Research from Western Sydney University. She also has a certificate in Foundations of Learning and Teaching from Curtin University and a Certificate IV: Training and Assessment (TAE40110) and (TAA40104) from Holmesglen Institute, Moorabbin, Victoria. Her core research interests lie in Diversity and Inclusion, Cross-Cultural Management, Student Formation and Well-Being, as well as in Leadership and Emotional Labour.

AWARDS AND HONOURS

2018 Nominated for VC Learning & Teaching Award Federation University
2018 Outstanding commitment to Teaching & Learning Award UBSS
2018 Certificate for Outstanding Contribution to the USC program
2015 Outstanding Contribution to Student Learning Award, Curtin University
2014 Commendation Award for Exceptional Contribution to the delivery of Curtin University Programs, Curtin University
2013 Excellence in Learning and Teaching Award, Curtin University
2012 Commendation Award for Exceptional Contribution to the Delivery of Curtin University Programs, Curtin University

Theme: Environmental Sustainability

IMPACT ON WATER QUALITY OF RIVER DURING COVID-19 LOCKDOWN PERIOD

SANDEEP K. SHUKLA
Research Officer
Waingangā Water Quality Laboratory, Waingangā Division
Central Water Commission
Nagpur, India
Email: dr.sandeepkshukla@gmail.com

Water is a very important resource for the survival of life. Although 71% of the earth's surface is covered with water, there is no equitable distribution of water in the world. Further, there is a shortage of water of requisite quality. In rural and urban India, a considerable part of the population consumes river water without proper treatment. The assessment of the quality of river water is very much important in such situations. The various studies show that Water Quality of Indian Rivers has been improved during the lockdown period. In the lockdown period, Central Water Commission has observed Gauge & Discharge (GD) at 57 locations and Water Quality of rivers at 128 key locations covering main river basins in India. Out of 57 GD sites, there are no noteworthy changes in water level and discharge at nearly all of the sites. The 8 GD sites have shown an increase in water level and discharge which may be due to unseasonal rainfall that has also been observed in some parts of India during the lockdown period. The value of Bio-chemical oxygen Demand, Electrical Conductivity, Total Coliform, Total Dissolve solid, Turbidity, Chemical Oxygen Demand was decreased and Dissolved Oxygen was increased in lockdown period. The Yamuna Pollution Monitoring Committee observed several reports and pictures of river Yamuna appearing in the media, including social media, which showed improvement in water quality in the river after the lockdown imposed by the Government.

The real-time water monitoring data presented by Central Pollution Control Boards (CPCB) state that 27 out of 36 monitoring units located at different places wherein the river Ganga flows were found suitable for propagation of wildlife, fisheries and bathing. CPCB also has three real-time monitoring stations in Kanpur, which shows the water quality data as reported through these monitoring stations during the lockdown period. The value of Dissolved oxygen was increases and the value of Bio-chemical Oxygen Demand, Ammonical Nitrogen and Chemical oxygen Demand were decreases. A positive effect observed on water quality of Indian Rivers at most of the places due to stop production on various industries that discharge effluents in rivers and lack of anthropogenic activity due to nationwide COVID-19 lockdown period.

DR. SANDEEP K. SHUKLA

Dr Sandeep Shukla is working as Research Officer in Wainganga Division, CWC, Nagpur. He has a PhD in controlled drug delivery through hydrogels from Rani Durgawati (RD) University, Jabalpur, MP. He worked as Research Associate in the collaborative research project of Govt. Autonomous Science College, Jabalpur and National Chemical Laboratory, Pune funded by Department of Science Technology, Govt. Of India. He has been published more than 40 scientific papers, review, book chapters etc. in referred international journal and conferences proceeding. He has been presented more than 100 lectures in various International and National level conferences Workshops, Training program etc. He also selected for the post of Scientist in National Institute of Pharmaceutical Education and Research (NIPER), under the Ministry of Chemicals and Fertilizers, Government of India. He also selected for the post of Scientist 'C' in National Ganga River Basin Authority (NGRBA), Central Pollution Control Board under the Ministry of Environment and Forest, Government of India. He is member of several national bodies, editor to different international journals and referee to more than a dozen national/ international journals. His Area of interests is water purification, water quality monitoring, responsive polymers and controlled drug delivery systems, nanotechnology. In 2013, he was only government officer selected from all over India for Group Training Course in 'Water Environment Monitoring' in Japan under the Technical Cooperation Program of the Japan International Cooperation Agency (JICA), Government of Japan. As an in-Charge & Quality Manager First Water Quality Laboratory of Central Water Commission get NABL accredited in the New Version of ISO/IEC 17025: 2017 in June 2019.

Theme: Health Sustainability

THE COVID-19 PANDEMIC AND THE USA

DR. RAJESH K SINGH
Laboratory Director of R&D
Abzyme Therapeutics, PA, USA
Email: rajesh.singh79@gmail.com

Severe acute respiratory syndrome coronavirus (SARS-CoV)-2, a novel coronavirus from the same family as SARS-CoV and Middle East respiratory syndrome coronavirus, was first reported in Wuhan, the capital of Hubei, China. The disease caused by SARS-CoV-2, coronavirus disease 2019 (COVID-19), has spread worldwide within a first few months of the first report leading the World Health Organization to declare a pandemic. The first case of COVID-19 in the USA was confirmed in late February 2020, and soon the country topped the list of the number of COVID-19 cases and the associated deaths. The main symptoms of COVID-19 are fever, cough, fatigue, slight dyspnoea, sore throat, headache, conjunctivitis, and gastrointestinal issues. Real-time PCR is used as a diagnostic tool using a nasal swab, tracheal aspirate or bronchoalveolar lavage samples. As COVID-19 has triggered enormous human casualties and serious economic loss posing global threat, an understanding of the ongoing situation and the development of strategies to contain the virus's spread are urgently needed. Currently, various repurposing therapeutics for COVID-19 have shown to be clinically effective. Besides, global institutions and companies are already in a quest to develop vaccines for the prevention of COVID-19. In this presentation, the COVID-19 pandemic in the USA and the associated social and economic impacts will be discussed.

DR. RAJESH K SINGH

Dr Rajesh Kumar Singh a highly motivated and performance-driven biochemist with over 10 years of experience in the field of design and execute complex, high-level technically demanding research projects; adept at genetic and protein engineering, large-scale production and purification of proteins using FPLC/HPLC, mammalian cell culture and cell-based techniques, NMR, Mass spectrometry, X-ray crystallography, ITC, CD, SPR, and fluorescence-based techniques. He post-graduated from Jawaharlal Nehru University, New Delhi, and completed his PhD in Biochemistry and Molecular Biology from University of Cologne, Germany.

Experience

Abzyme Therapeutics Laboratory Director of R&D October 2018 - Present (1 year 10 months) Pottstown, PA, USA
LifeSensors, Inc. 1 year 10 months Assistant Director, R&D July 2017 - September 2018 (1 year 3 months) Malvern, PA, USA
Senior Scientist II December 2016 - June 2017 (7 months) Malvern, PA
University of Maryland 7 years 11 months Research Scientist January 2016 - November 2016 (11 months) University of Maryland, College Park, Maryland, USA
Postdoctoral Scientist January 2009 - December 2015 (7 years) College Park, Maryland, USA

Honors-Awards

• Oct 2004 – Sep 2005, Received fellowship (Stipendium) by the University of Konstanz, Konstanz, Germany.
• Sep 2002 – Sep 2004, Received PhD Fellowship (Stipendium) by the International Graduate School in Genetics and Functional Genomics (IGSGFG), University of Cologne, Germany.
• May 2002, Awarded Junior Research Fellowship (JRF, ranked in top 20% of the qualified candidates) from Council of Scientific and Industrial Research to pursue research in Life Sciences in India.
• Feb 2002, Awarded Graduate Aptitude Test in Engineering (GATE) qualification in Life Sciences with 92 percentile, conducted by Indian Institute of Technologies (IITs).
• Jul 2000 – May 2002, Received scholarship from Department of Biotechnology, New Delhi, India

Theme: Health Sustainability

HOW TO LIVE WITH COVID-19 : PREVENTION, SYMPTOMS/SIGNS, TREATMENT AND STATUS OF VACCINE

DR. SEYED T.H. ABEDI
The Scarborough Hospital, Birchmount Campus, Ontario, Canada
E-mail: taqiabedi@rogers.com

A coronavirus is a kind of common virus that causes an infection in your nose, sinuses, or upper throat. In early 2020, after a December 2019 outbreak in China, the World Health Organization identified SARS-CoV-2 as a new type of coronavirus. The outbreak quickly spread around the world. COVID-19 is a disease caused by SARS-CoV-2 that can trigger what doctors call a respiratory tract infection. It can affect your upper respiratory tract (sinuses, nose, and throat) or lower respiratory tract (windpipe and lungs). It spreads the same way other coronaviruses do, mainly through person-to-person contact. Infections range from mild to deadly.

The main symptoms include fever, coughing, shortness of breath, trouble breathing, fatigue, chills, body aches, headache, sore throat, congestion/runny nose, loss of smell or taste, nausea and diarrhea. The virus can lead to pneumonia, respiratory failure, heart problems, liver problems, septic shock, and death. If you're infected, symptoms can show up in as few as 2 days or as many as 14. It varies from person to person.

Unlike the flu, a lot of people aren't immune to the coronavirus because it's so new. If you do catch it, the virus triggers your body to make things called antibodies. Researchers are looking at whether they give you protection against catching it again. The coronavirus also appears to cause higher rates of severe illness and death than the flu. But the symptoms themselves can vary widely from person to person.

It's too soon to tell how long the pandemic will continue. It depends on many things, including researchers' work to learn more about the virus, their search for a treatment and a vaccine, and the public's efforts to slow the spread.

More than 100 vaccine candidates are in various stages of development and testing. This process usually takes years. Researchers are speeding it up as much as they can, and some vaccines are already in late-stage trials. While some say we could have a vaccine by year's end, others predict it will be longer to ensure that the vaccine works, is safe, and can be distributed widely.

DR. SEYED T.H. ABEDI

Dr. Abedi is a physician at the Scarborough Hospital, Birchmount Campus, Ontario, Canada and has worked for approximately 38 years in different countries as Internist, Cardiologist and Pathologist. He is a distinguished Fellow of Royal College of Physicians and Surgeons, Canada. He has been conferred with several academic distinctions, awards, honours & achievements. He is a member of the Canadian Writers Union and has approximately 65 books in Urdu classical poetry literature to his credit.

Theme: Environmental Sustainability

SDGs AT A PERSONAL LEVEL: TRANSITION TOWARDS CITIZEN OF THE GLOBE AND CREATURE ON EARTH

Felix Bast
Associate Professor
Department of Botany, Central University of Punjab
Punjab, India
Email: felix.bast@gmail.com

Academic discussions pertaining to UN SDGs traditionally hover around policies and implementation strategies of nation-states, which unfortunately takes a route that is mere rhetoric. The dire necessity of bringing SDGs at a personal level is emphasized in this talk, irrespective of national boundaries. The folly of sustainability-show off goods like bamboo water bottles and the wooden toothbrush is exposed, so as perils of modernity like gyms. Strategies to bring more sustainability at a personal level is deliberated, including leading a lifestyle that is less consumeristic, eating less, self-sufficient lifestyle, biking to commute and voting for a politics that protects our environment. The central theme of this talk is the prioritization of our life with a worldview that is centred on rationalism and science: "Be a creature on earth, while a citizen of the world."

Dr Felix Bast

Dr Felix Bast is an award-winning author, and scientist based in India. He holds a PhD in marine biology from MEXT, Tokyo, Japan in 2010 and since then he has been working as Associate Professor at the Central University of Punjab, Bathinda, India. He previously attended the University of Washington, US; Marine Biological Association of UK, Plymouth; IIT-Bombay and NIO-Goa. He is an accomplished scientist having made a number of significant scientific discoveries; including sympatric speciation in marine algae, three new species of bloom-forming endemic seaweeds (two in India and one in Japan), endophytic algae for the first time in the Indian Ocean, geographic origin of Tulsi-Holy Basil- in Indian Subcontinent and the discovery that spores of European species of terrestrial microalgae caused "Blood Rain" in South India. His research breakthroughs had been featured in The Hindu, Times of India, Indian Express, Hindustan Times, The Tribune and so on. He is a prolific popular science writer with regular contributions appearing in Resonance, Science Reporter, and The Hindu, and has authored the critically acclaimed book "Creatures of India." He, together with his wife Swapna, founded Felix & Swapna Foundation- a charity foundation for the popularization of science in India. Dr Felix Bast is the winner of 2012 "INSPIRE Faculty Award" from Department of Science and Technology, Government of India, and "President's Inspired Teacher"- the highest civilian recognition for university faculty, recognized by the President of India in 2015.

Theme: Environmental Sustainability

SUSTAINABLE DEVELOPMENT GOALS AND GREEN SOURCES OF ELECTRICITY

Mohammad Rihan
Associate Professor
Electrical Engineering Department, Aligarh Muslim University
Email: mohd.rihan.ee@gmail.com

The requirement for electricity is growing rapidly and it is being extended to new sectors like transportation. Moreover, the present digital age is completely dependent on electricity. In the near future electricity is expected to become the primary source of energy. The Indian electricity system is expected to expand by six times in the next 20 years. Meeting this requirement of electricity through conventional sources is harmful to the environment. Conventional power systems have been dominated by a coal-based generation of electricity. This results in a significant amount of CO_2 generation. Because of this, the mission for environment protection and reduction in CO_2 emissions has green sources of energy as an important component. Green sources of electricity generation are those sources which do not contribute to CO_2 emissions when producing electricity. Solar Energy and Wind energy are the main examples of green and renewable sources of electricity.

In this talk, the use of these Green Sources of Electricity to satisfy the National Sustainability Development Goals shall be discussed. The National Mission on Renewable Energy has been defined to achieve the target of reduction in CO_2 emissions by 35% by 2030 compared to 2005. Under this mission, 175GW renewable energy capacity has to be installed by 2022. How the integration of these plants is important for sustainable development and the need for generalising the discussion beyond electrical engineering shall be elaborated. The important role which academic institutions can play in achieving this shall also be discussed. Some of the important policy initiatives shall be shared during the talk. The concepts discussed and shared in the talk will be general in nature but the emphasis should be on the Indian power system and the changes required in it to meet the SDGs.

Dr Mohammad Rihan

Dr Mohammad Rihan is Associate Professor and Member Incharge, Electricity at AMU. As the Convener of Green University Project, he has been leading the efforts towards integration of solar power with distribution grid at the AMU campus for the last 6 years. His efforts led to the installation of 6.5 Mega Watt solar plants in the campus which is the largest set up of Green and Renewable energy in any academic institute in the country. With these initiatives, the University reduced the electricity withdrawal from the grid by more than 60 lakh units in just two years. It represents an equivalent saving in CO2 emissions of more than 50 lakh Kg. The implementation serves the National Solar Mission and the National Commitment at UN on reducing CO2 emissions in the country. For these accomplishments, Dr Rihan has been elected Fellow of IET(UK) and has also been appointed as Visiting Scientist at National Institute of Solar Energy, an autonomous institute of Ministry of New and Renewable Energy, Government of India.

Theme: Health Sustainability

CONTRIBUTION OF BASIC SCIENCE IN DISEASE PREVENTION

Namit Ranjan
Research Scientist
Department of Physical Biochemistry
Max Planck Institute for Biophysical Chemistry
Gottingen, Germany
Email: namit.ranjan@mpibpc.mpg.de

Protein synthesis is essential to life. Defects in protein synthesis process are associated with numerous human diseases including cancer, diabetes, immunodeficiency, neurological disorder, mitochondrial disorders, as well as virus infection; and the catalogue is extensive and increasing. Some of these diseases arise from mutations in ribosome interacting translation factors, or mutations in specific mRNAs, or mutations in the gene responsible for tRNA modification. Given the critical role of numerous players involved in mRNA translation, further studies will provide novel and interesting insights into their involvement in human diseases. Therefore, it is of great interest to understand the contribution of basic cellular process in disease, which could be helpful for therapeutic development. Here, I will present the role of RNA modifications in regulating translation.

Dr Namit Ranjan

Dr Namit Ranjan is a Research Scientist in Department of Physical Biochemistry; Max Planck Institute for Biophysical Chemistry; Gottingen, Germany. He has about 20 years of experience in the field of Molecular Biology, Biochemistry and Cell Biology with a wide range of training in various national and international institutions. He has graduated from Bangalore University and post-graduate from Madurai Kamaraj University in Genomics. He has completed his PhD from ETH Zurich in Molecular Biology and Biophysics.

Honors-Awards
Max Planck Fellowship Scholarship
Certificate for Excellence for B.Sc., T. John College, Bangalore
2nd Prize at Biotechcellence '06, Anna University, India
All India 2nd rank for M.Sc. admission
Molecular Life Science Zurich PhD. Fellowship

Theme: Health Sustainability

RECENT ADVANCES IN DRUG REPURPOSING FOR COMBATING SARS-COV-2

Prem Prakash Yadav
Principal Scientist
Medicinal and Process Chemistry Division
CSIR-Central Drug Research Institute, Lucknow
Email: pp_yadav@cdri.res.in

Human coronaviruses are a large group of related viruses causing respiratory illnesses with a variable degree of severity, ranging from a mild upper respiratory tract illness to severe interstitial pneumonia and acute respiratory distress syndrome (ARDS). Epidemiological investigations have suggested it to be originated from a seafood market in Wuhan, China and since then has spread to more than 200 countries. The pandemic has led to an intense global effort to repurpose existing approved drugs for its treatment. There are currently no drugs or vaccines available for a fully effective treatment or prevention of COVID-19, and this has accelerated drug repurposing efforts, that is, the investigation of approved existing drugs for the treatment of new diseases. The existing antiviral drugs that have been used for SARS, MERS, HIV/AIDS are being tested in clinical trials across the globe. WHO has started an international "Solidarity" clinical trial to help find an effective treatment for this disease. This trial will compare four treatment options against a standard of care to assess their relative effectiveness against COVID-19. The drugs chosen for the trials were the malaria medications hydroxychloroquine and chloroquine; the antiviral drug remdesivir; the HIV drugs Kaletra, consisting of lopinavir and ritonavir; and other combinations including interferon beta-1a. Health sustainability in COVID-19 pandemic is a challenge and we will be discussing the pandemic, therapeutic targets, strategies, and repurposed small-molecule drugs being assessed in clinical trials for the treatment of COVID-19.

Dr Prem Prakash Yadav

Dr Prem Prakash Yadav is working as Principal Scientist in Medicinal and Process Chemistry Division CSIR- Central Drug Research Institute, Lucknow. He completed his undergraduate and postgraduate studies from the University of Allahabad, India. He completed his Ph. D. Phytochemical investigation of medicinal plants and chemical transformation of bioactive natural products. from Dr R. M. L. Avadh University, Faizabad, India. His area of research interest is Identification of bioactive from natural sources and development of novel strategies for the synthesis of medicinally active heterocycles. He is member of several national bodies, editor to different international journals and referee to more than a dozen national/ international journals.

Academic Honors/Awards:

2016 CSIR-CDRI Incentive award for publications 2016
2008-09 Awarded **DAAD Post Doctoral fellowship** to work at Goettingen University, Germany.
2005 Awarded Senior Research Fellowship (CSIR, New Delhi).

Theme: Legal Sustainability

The Role Of Legal Regime For The Effective Environmental Management And Pollution Control In India

S.G. Venkatasubramanian
Environmental Law & Management
Anna University; Chennai, India
Email: hellosgvs@gmail.com

Though Sustainable Development word has come into existence from Rio Declaration (1992) . But if anyone could trace the history of the Indian culture, whatever the practices we were doing from time immemorial were all of towards Sustainable Development. But most unfortunately due to the introduction of western culture into our system it has slowly changed into the consumerist culture. From the repair to remove and replace to use and throw culture. Even though the Sustainable Development principle has come into existence since Rio Declaration (1992), strictly and judicially speaking it was in the form of soft law only, which is judicially non-enforceable and non-obligatory on the part of signatories. It is needless to say India was also a partner for the Declaration. But still, the soft law was given hard law status in India by our Hon Supreme Court in its landmark judgement in the Vellore Citizen Welfare Forum vs Union of India case in the year 1996. For the effective Environmental Management, three "E" s are essential to vide Engineering, Education and Enforcement. In Engineering point of view to attain the sustainable development we have to have a comprehensive look and control of all the sources and types of pollution through technological input and ways and means. It is highly imperative to blend the scientific principles into engineering and develop technology to control and manage the pollution both at the source and end pipe treatment with clean development mechanism where it is possible. The second "E" is Education –namely creating awareness and sensitizing the people the importance of pollution control, changing the lifestyle and behaviour of the people and practice more ecofriendly methods. Hon Supreme Court in one of its landmark judgements made Environmental Education as one of the compulsory paper in the college and University curriculum irrespective of the branch of study, with the same syllabus throughout the length and breadth of the country. Finally concerning third "E" namely Enforcement here the laws play a good amount of role in managing and controlling the Environmental pollution and Environmental Protection. Laws are the tools in the hands of the enforcement agencies to control and combat pollution. Again to enact the laws the Constitution has to give room for the legislature. In this connection, it can be very proudly said that India is one among the few countries in the world where the Environmental Protection is given the Constitutional status. We have enacted a plethora of Environmental Legislations in the last two decades in addition to the Indian Penal Code for effective environmental management. Apart from this Legislature, Executive, the third arm and pillar of the democracy namely Judiciary also played a very active role and paved the way for the emergence of environmental Jurisprudence. In my paper, I am going to discuss the how far the Sustainable Development has been given a hard law status by the Judiciary and more so the higher judiciary innovatively interpreting the Constitution elevated the Environmental Right into a Constitutional Right from the ordinary simple public nuisance under the IPC. Apart from that the judiciary also ingrained certain principles and doctrines into our Environmental Jurisprudence. In spite of all these, we could not able to achieve the requisite or expected target, why? Apart from

this the global concern for the environmental crisis have led to the evolution and remarkable growth of international environmental Law also
The analysis has been made under the following headings:

1. The different principles of International Environmental Law
2. The Legal Status of General International Environmental Principles.
3. The various concepts and Principles of Sustainable Development
4. Right to Development - Human Right
5. Role of Human Rights Law in the Protection of Environment and
6. the advantages and disadvantages of the Human Rights Approach
7. Treaties concerned with Third Generation Rights
8. Advantages and Disadvantages of Human rights Approach
9. The International Law and State Courts
10. International Law and the Indian Constitutional Scheme.
11. International Law and the distribution of Legislative power
12. International Law and the Constitutional Duty
13. International Law and Indian Courts

The Judicial adoption of international environmental law into domestic law in India has not been done overnight rather it has been gradual. To understand the Judicial process of such adoption **Finally a blend of technological solution with Economic, ecological and legal regime together with political will, public participation and professional ethics alone can solve the Environmental problems effectively and for the sustenance AND EFFECTIVE MANAGEMENT of Sustainable Development.**

Prof (Dr) S. Ganapathy Venkatasubramanian

Dr S.G.V Subramanian is currently working as Professor (Environmental Management and Law) in the Environmental Studies Department of Anna University, Chennai. He has done his Doctorate from Anna University in the field of Environmental Management and Law. He has done Eight Masters Degrees including M.Sc., M. Phil in Botany, M.B.A, Six Post Graduate Diplomas, a Degree in Law. He has involved in several Environmental Impact Assessment related consultancy works. He has guided more than 100 students for their Master degree programme projects works. To his credit, 100 Papers have been published and presented in various National and International Journals and Conferences.

Academic Honors/Awards:

- Indo French Cultural Exchange Fellowship (2005)
- Awarded **DAAD Post Doctoral fellowship** to work at Goettingen University, Germany (2007)
- U.N Fellowship; University of Joensuu, Finland (2007)
- UGIT'S Excellence Award 2019 by Union of Geographic Information Technologists (UGIT)
- Best Environmental Assistance Award, 2019 by South Asian Institute for Advanced Research and Development (SAIARD).
- Distinguished Fellow in Environmental Management by International Multidisciplinary Research Foundation (IMRF) Vijayawada, Andhra Pradesh, India,

Theme: Legal Sustainability

ALTERNATIVE DISPUTE RESOLUTION IN THE COVID-19 ERA

Thomas P. Valenti
Attorney, Arbitrator (ACIArb), Mediator, Facilitator
Chicago, IL, USA
Email: tpv@valentilaw.com

The various forms of ADR such as mediation, negotiation, conciliation, facilitation, and arbitration are becoming more desirable and more popular than the traditional justice system. ADR is especially effective in resolving community disputes and conflicts between individuals, groups and organizations. Community dispute resolution through ADR offers constructive processes for resolving differences and conflicts between individuals, groups and organizations. Participants control the process and create their alternatives to avoidance, destructive confrontation, prolonged litigation or violence. Community ADR offers participants an opportunity to discuss their concerns and needs. It also strengthens relationships, builds connections between people and groups, and creates processes that make communities work for everyone. The process supports participants through difficult conversations, providing a safe environment to discuss the participants' needs while participants retain decision-making authority. Community ADR centres offer a variety of conflict intervention processes - depending on the needs of the participants and the capacity of the centre - that support participants in addressing their own and their community's unique conflict needs.

The era of COVID 19 has given rise to several challenges in effective dispute management:

- Establishment of more responsive project implementation protocols, where possible and as necessary
- Commencement, continuation, re-engagement, or ramping up of dialogue between contracting parties, with early dispute avoidance or mitigation in mind
- Scheduling of contract audits and reviews, with special consideration for how disputes are to be managed
- Analyze contractual clauses allowing for the suspension or modification of contractual obligations, including of force majeure, or frustration, impossibility and impracticability
- Review insurance and debt finance agreements
- Establish early communication and adhere to any contractually mandated notice requirements
- In advance of formally commencing a dispute, issue draft notice of arbitration or pre action claim letters to escalate pressure on the counterparty which may lead to settlement
- Renegotiate force majeure and hardship clauses, if possible, in line with model clauses provided by the ICC for international contracts to overcome the difficulties associated with the differences in the force majeure from country to country.
- Scoping the possibility of online or other remote options for dispute management

- Maintaining a healthy dialogue with dispute management practitioners

Mr Thomas P. Valenti

Tom Valenti is a Chicago based conflict resolution specialist offering mediation, arbitration, and facilitation services and training, globally. A certified mediator, Tom has conducted numerous mediations involving civil, commercial, interpersonal and workplace matters. He has mediated and trained extensively, both nationally and internationally, in jurisdictions all over the world. Tom is a member of several Bar Associations, including the American, Chicago, Illinois and Indian Bar, and is a co-founder and former Board Member of Mediation Beyond Borders. With a passion for mediation, highlighted by the many qualifications Tom holds in the field, Tom is a dedicated and talented mediator. A member of the Chartered Institute of Arbitrators, Tom Valenti is also an Arbitrator on the Public Panel at FINRA and is an approved Arbitrator and Mediator for several governmental and regulatory bodies, including the Circuit Court of Cook County, The National Arbitration Forum and is on the Advisory Board for The Association of Mediation Assessors, Trainers and Instructors.

Extensively trained himself in all aspects of dispute resolution, Tom's accreditations include Conflict Transformation Skills Training, focusing on Systems Dynamics, ABA International Family Mediation Training including Hague Convention Child Abduction cases, Circuit Cook County Annexed Arbitration and Mediation Training Programs. Tom also holds a Mediation Certification at The Institute for Conflict Management, and is a Board Member and Trainer at The International Academy of Dispute Resolution.

Tom's interests include the Athens Migration Dialogue Project, of which he is Co-Leader. The project helps local communities to design, organize and conduct dialogues that address difficult and dangerous issues, such as migration and violence in schools. He also led the Hurricane Katrina Project in New Orleans, LA and Biloxi, MS, which involved training area NGOs to help them improve their skills and develop community mediation programs.

Having a keen interest in the Middle East and the cultivation of mediation systems across the world, Tom has also worked with the Middle East Peace Initiative. Collaborating with the Pluralistic Spirituality Center Project, he oversaw the development of an Israeli-Arab and Jewish co-mediation approach and service to mediate community dialogue in an Israeli Jewish and Palestinian peace village, Neve Shalom Wahat Al-Salam (NSWAS).

Training the world's future mediators is also important to Tom. Training others to mediate is central to Tom's belief that alternative dispute resolution is a powerful force for good. Working with The International Academy of Dispute Resolution (INADR), a charitable organisation created to develop an understanding of the benefits of mediation amongst law students, Tom has travelled to the UK, Dubai, India and Europe to deliver mediation training for students. He is also an International Mediation Institute's Mentor to Youth.

Theme: Legal Sustainability

SUSTAINABLE DEVELOPMENT GOALS, CONSTITUTIONAL VALUES AND ENVIRONMENTAL EDUCATION

Tarun Arora
Professor & Dean
Department of Law; School of Law Central
University of Punjab, Bathinda
Email: tarunarorabflc@gmail.com; tarun.arora@cup.edu.in

The solidarity of nations and inter-dependence has become indispensable need of the hour. The challenge to preserve life on this planet has brought the world closer to each other. Layers of the challenge unfolded in due course of time revealed that it is not only sustaining life but also curbing intra-generational and inter-generational disparity is threatening the individual, group of individuals, states, international fraternity, last but not the least humanity as a whole. To face this challenge and ensure the fulfilment of the basic needs of people, development is equally significant. Therefore, humanity entered into a social contract in 2015 namely Agenda for Sustainable Development, 2030. The Agenda spelt out 17 Sustainable Development Goals (SDGs) to be persuaded at national (individual) as well as global (collective) level. Many countries reframed and reshaped their national legislative, administrative and regulatory frameworks in accordance with SDGs. However, the Indian Constitution already equipped with spirit underlying SDGs in addition to rich Indian heritage to preserve and protect the environment. Numerous efforts have been made to introduce environmental education since 1990.

Against this backdrop, the work underscores the inter-relationship among and between SDGs, Constitutional Values and Environmental Education in the light of Agenda for Sustainable Development, 2030. This exercise aims to sensitize the readers about the constitutional implications of SDGs at multiple levels covering obligations of the government, public sector undertakings, educational institutions and individual. Elaborating the significance of SDG 4 encapsulating *'inclusive education',* the discussion revolves around the constitutional spectrum of sustainable development, inclusive growth, equitable justice, distributive justice, the doctrine of public trusts. An attempt has been made to highlight the areas where institutions and individuals can contribute in realizing SDGs. The human beings have always been placed at the central stage in UNCHE, 1972, UNCED, 1992 (also known as Rio Declaration) and so on. Therefore, keeping in view the universal slogan *Think Globally Act Locally,* the presentation concludes with an urge to all the Indian Citizens to be sensitized and sensitize others regarding their fundamental duty of citizens of India to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.

Prof Tarun Arora

Dr Tarun Arora, Professor in Department of Law and Dean in School of Legal Studies of Central University of Punjab, Bathinda. He has about 20 years of experience in the field of Jurisprudence Constitutional Law, Environmental Law and Biological Diversity Law. Prof. Arora has published 2 books and more than 54 research papers/book chapters, in addition to several articles, in journals/books of national and international repute. He is member of several national bodies and organized various events like National Youth Parliament Competition under the aegis of Ministry of Parliamentary Affairs, United Nations Development Workshop, Ek Bharat Shrestha Bharat Programme- Prime Minister's Office Flagship Programme. He is Jury Member to more than a dozen Ministry of Parliamentary Affairs. He is also a Life Member of Indian Institute of Public Administration.

Award/Honour

1. Honoured on Law Day by International Council of Jurists on Nov. 26, 2008, by Lord Justice Philip, House of Lords, U.K.
2. Government of Punjab on Aug. 15, 2014, for contribution in the field of Environmental Awareness.

Theme: Economic Sustainability

Climate Change, Sustainability, and Poverty

K.V. Bhanumurthy
Professor, Delhi Technological University
Formerly Dean, Faculty of Commerce and Business
Delhi School of Economics, University of Delhi, Delhi, India
Email: bhanumurthykv@yahoo.com

The concept of Environmental Sustainability is closely associated and interlinked with the phenomena of climate change. However, it is different from the concept of business sustainability in its objective. While the former tend to achieve just sufficient growth and adequate profit, which is enough to sustain life whereas the latter is concerned more about the successful running of the business and maximization of the profit and high growth rate. The book "Environmental Sustainability- a Consumption Approach" refers to a new approach to environmental sustainability. The outbreak of the pandemic has laid down the stage to which the world has been held to ransom and has lead to a setback in the gains made to address poverty, hunger, good health and well being of the society. The poorer sections of the societies across the globe have been hit hard. To overcome the global environmental threat and the escalating poverty al around, Future Proofing would have to be undertaken. It can be done by undertaking sound environmental responses, plans and policies and giving them the importance they deserve. The Four Sustainable Goals that are vital for sustainable recovery are Climate Action Goal-13, Life on Land (Goal 15), Responsible consumption and production (Goal 12) and Life below water (Goal 14).

Nature is in crisis due to biodiversity, habitat loss and toxic pollution. Therefore, protecting ourselves requires sound management of hazardous medical and chemical waste, strong stewardship of nature and biodiversity, creation of green economies and transition to carbon-neutral economies along with the commitment to "building back better". Facing the challenges of COVID-19 is as important to face the challenges to environmental sustainability. Climate Change, through a gradual process but has a long-lasting effect. The rate of rising in global temperatures, increasing pollution and wastage, have also led to an outbreak of pandemics and extremities of weather. Such conditions have led to the rise in the rates of poverty levels. Moreover, they are likely to grow at a rate of 25%, if not taken care of.

Climate changes would have to be tackled dexterously in the post-COVID-19 era as well otherwise they would spell doom for poor people who have been put in double jeopardy. They have not only got jobless but are not be able to avail of medical facilities and proper nutrition due to lack of financial resources.

Therefore, the developing economies, as well as the developed nations, would have to undertake green economic practices like energy transitions, promote an environment-friendly lifestyle, stop aridification and acidification of land as per the Global Green New Deal suggested by the UNEP. It proposes to target stimulus spending, make changes in domestic policies and changes in international policy architecture so that economies are revived, sustainable growth is attained, carbon dependency is reduced, environmental destruction is contained and levels of poverty are brought down.

Prof. K.V. Bhanu Murthy

- Prof. K.V. Bhanu Murthy is former Dean Faculty of Commerce & Head Department of Commerce, Delhi School of Economics, University of Delhi. Prof. Murthy is a PhD in Economics from the Department of Economics, Delhi School of Economics. His recent contributions are in the areas of Banking and finance, environmental economics, corporate governance in banks, international business social responsibility and business ethics. He has published three books (from international publishers), 18 chapters in reputed books, more than 100 publications in refereed journals and 100 papers in international and national conferences. He has done two international and five national projects, including a UKIREI project with Open University UK, National Co-ordinator for eContent Development of UG Courses in Commerce and PI for ePG Pathshala and MOOCs in Commerce. Presently, Vice-Chairman of Centre for e-Learning & Teaching Learning Centre, SGTB Khalsa College, Delhi University.
-

Distinctions

- Best paper Award, International Conference in Business and Economic Research, Vancouver, Canada, 2016.
- Awarded best paper in III, IV, V, VI, VII, VIII and IX National Conference on Capital Market, IBS Gurgaon, 2009-2015.
- Awarded Silver Medal by Faculty of Rural Development and Applied Economics, University of Debrecen, Hungary, 2011, June.
- Best paper award at International Conferences, Sept. & March 2014 and Jan 2012.
- "Dewang Mehta award for outstanding contribution to education", 24 Nov. 2010, Mumbai.
- Two best paper in National Conference Emerging Issues in Financial Sector, JIM, 2009.
- "Best Citizens of India" Award by IPH, New Delhi, in June 2008.
- "Siksha Ratan Puraskar" by IIF Society, in November, 2007.
- Social Science Research Network Library (SSRN) has rated sixteen of his papers in the TOP TEN LIST in the world, of which 8 are in the All-Time Top Ten List.
- "Eco-Award" for future scenarios by the World Society for Sustainable Development, 2002.
- AllExperts.com (the largest and oldest experts' website in the world) has rated him as the best expert in Economics (in the world), in November 2000.

Theme: Social Sustainability

ATAMNIRBHAR BHARAT: ROLE OF YOUTH IN SOCIETAL TRANSFORMATION

Unnat P. Pandit
Director
Atal Innovation Mission, Niti Aayog
Sansad Marg, New Delhi
Email: email@unnatpandit.com

The societal transformation is dependent on the realization of three fundamental qualities of पवित्रता, धैर्य तथा दृढ़ता. Success in achieving the same would lay the foundation to a strong and self-dependent society. The new National Education Policy 2020 will change the entire approach to and pedagogy in education and thereby play an important role in developing the knowledge and skills of the youth. To bring about the desired societal change enabled by the youth, it is necessary to brainstorm about aatmnirbhar shiksha and aatmnirbhar yuva. Youth are the binary pillar of the entire social structure. To encounter all the societal challenges and bring about the holistic transformation, it would be necessary to infuse change in the pedagogy of education, impart values and skills to the youth in a stress-free environment. The education should build patriotic fervour amongst the youth if India has to attain the status of Vishwagurutva. The COVID-19 crisis has spelt out the importance of self-reliance and brought about a transformation in the mode of education. It is time for recovering education.

According to a shlok in Shrimad Bhagwat Geeta, Karma is necessary to achieve excellence in any field so the youth has to work for the betterment of the Indian society and bring about societal transformation. Youth has the power and energy to contribute to the growth of society. The role of youth in building aatma nirbhar bharat depends upon-

- Utilization of knowledge for societal benefit. Knowledge, research and innovation are going to help India to become a superpower.
- Intellectual development is fundamental. Youth should engage in discussions on various topics of interest and the problems going on in the world.
- Discipline builds the character of the youth, their aspect towards society. It guides them to the path of success and progress.

- The technology and innovation will only lead to building up of self-reliant India and the five pillars for achieving the same are-
- Economy
- Infrastructure
- System
- Demography
- Demand

These 5 pillars can be achieved through utilisation of data, information, knowledge and wisdom. To fulfil the goal of sustainable development and transformation of the Indian society, it is imperative to encourage the youth to explore the new technological advancements and develop the appropriate skills. The building up of knowledge economy for self-reliant bharat requires the youth to utilize their talent and knowledge and work for the betterment of people, technology and improvement.

It is time for the community to ideate and bring the required change. The knowledge and skillsets possessed have to be first understood and then a plan has to be devised as to how the same can be used for the betterment of the next generation. Start-ups and entrepreneurs are failing nowadays because of various situations in the market, but the same needs to be encouraged as reflected in various initiatives of the Indian Government. It is necessary to drive the youth to think and work towards overcoming the fears by developing skills and nurturing creativity. The youth should be open to gaining knowledge from where ever they can and apply towards the development. They should be inculcated with an entrepreneurial mindset from the very beginning. They should focus on the bottom line and driven through data and facts. Ethics should reflect on their behaviour, be it education or in the professional front. It is time to strengthen the innovation ecosystem in India. Innovations are important for the emergence of the country as a superpower. It will be useful to explore hotbeds in start-ups and entrepreneurship sectors across the globe. The youth hold the key to the entire process of societal transformation and they need to be guided the right way to come up with initiatives and possibilities that would define aatmnirbhar bharat.

Prof Unnat P. Pandit

Dr Unnat P Pandit is Formerly Programme Director, Atal Innovation Mission, National Institution for Transforming India, a Professor of IP, Innovation & Entrepreneurship in Jawahar Lal Nehru University. He has also completed M.Sc. in Organic Chemistry and PhD in Medicinal Chemistry from Bhavnagar University under University & Industry Collaborative Research Project of Alembic Limited. His area of doctoral research was 'Medicinally Important Heterocycles wherein he has designed and screened the novel Heteroycles having norfloxacin nuclei. Dr Pandit also filed three patent applications on his research work. He has also completed an Executive General Management Program (EGMP) from Indian Institute of Management, Lucknow. He has been awarded LLB in general law from Gujarat University and a specialized PG Diploma in patents law from NALSAR University of Law. As a visionary professional, served in academics, a pharmaceutical business linked intellectual property (IP) management and in a bureaucratic role for overall 18 years of professional experience dealing with techno-commercial activities of a different organization like academic, corporate groups, central government. He has worked as Officer on Special Duty to Commerce & Industry Minister Smt. Nirmala Sitharaman at Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, Govt. of India. He was also Member of IPR Think Tank constituted by Department of Industrial Policy and Promotion (DIPP), Government of India to draft National IPR Policy of India. • Member, Academic Council, Gujarat Technological University, Ahmedabad • Member, Academic Council, National Resource Centre (NRC) of UGC-HRDC-SGB Amravati University • Member, Research Council, Gujarat Technological University, Ahmedabad • Trustee, Research for Resurgence Foundation & IP Care Foundation. He has published ~14 research paper/ scientific review articles in journals of international and national repute among which 08 are patent applications filed with patent office on different scientific inventions.

Abstract No. 01

THE PREVENTION OF MALOCCLUSIONS IN A LOCAL COMMUNITY IN SOUTHEASTERN ALGERIA

Fouzi Boukhazani, Abdelghani Miliani, Sabrina Bennaceur, Fatma Si Ahmed
Faculty of Medicine of Ouargla, Algeria
Email: fboukhazani@gmail.com

Introduction: Several studies reported the impact of malocclusions on life quality and authors such as Sischo and Broder in 2011 studied this impact on comfort when eating, sleeping and engaging in social interaction, in self-esteem and satisfaction. These reports highlighted the importance of malocclusions prevention in order to improve individual well-being. The prevention of malocclusions is the main goal of the preventive orthodontics. This field of orthodontics is based on patients and parents education, supervision of dental and facial growth and prediction of the appearance of malocclusion. Several procedures are usually used, starting by oral screening to interceptive appliances. The aim of the current study is the evaluation of the place of preventive procedures in general orthodontic practice and the results of these procedures after 1 year follow up.

Methods: This study included a sample of 61 patients (28 males and 33 females) from the city of Ouargla (southeastern Algeria) with a mean age of 10.42±2.05. The sample was randomly taken from the patients referred to orthodontic screening by the school dentists.

Results: The patients of the sample have been screened and 32.77% of the patients presented a malocclusion sign that needs an interceptive intervention (second level of preventive procedures). A second proportion of the sample required preventive measures. Preventive procedures were needed and provided to 45.9% of the patients, divided into 24.6% of sealant application and 21.31% of eruption guidance.

The one year follow-up of the patients taken in charge by interceptive procedures showed an improvement of the oral functions and/or esthetics in 65% of the cases.

Discussion: The preventive and interceptive procedures were needed in a major part of the patients of the sample; this can be explained by the population of the study which was referred patients from the school dentists (already screened). Even though early signs of malocclusions were found in approximately one third of the sample, almost a half of the sample required preventive measures.

Conclusion: Preventive procedures are highly requested and recommended for the community oral health even if no signs of malocclusions are noticed. Interceptive procedure, when provided at the right moment, can improve the patient's life quality.

Key words: Prevention, malocclusion, orthodontics, life quality.

Abstract No. 02

POST-COVID-19 IMPACT ON ENVIRONMENT: A BRIEF REVIEW

[1]M. Imran Ganaie, [1]Aisha Dev, [2]Tanveer-ul Islam Khan, [3]Ishtiaq A. Mayer
[1]Research Scholar, Department of Geography, University of Kashmir, Srinagar-190006-India
[2]Research Scholar, Department of CCAS, University of Kashmir, Srinagar-190006
[3]Professor, Department of Geography, University of Kashmir, Srinagar-190006-India
E-mail: emraanmohmad@gmail.com

Novel coronavirus has become the global health problem. The outbreak was declared a public health emergency by WHO on 30 January 2020. In this study, we are discussing the effects of COVID-19 on environment. Several researches shows that the quarantine measures adopted by many governments throughout the world have caused many benefits to the environment, such as healing the planet in a way which is never seen before in living history, improving the quality of air, reducing the noise pollution, cleansing of tourist destination, and other factors related to environment. On the other hand, there are negative factors also, such as Increase in wastes, reduction of recycling, economic problems and other health issues. Humans always forget that we are mostly dependent on natural environment. Covid-19 has made us thinking how natural environment is important for our day-to-day life. It has made us thinking that environmental sustainability is a vital tool for the conservation of environment. Environment is cleansing through COVID-19, but it is not the sustainable way to heal out the environment. It is expected that when world well comes out from this pandemic everything will return in a short time span. World economic activities are expected to return also.

Abstract No. 03

CARBONACEOUS AEROSOL POLLUTION DURING WINTER SEASON IN DELHI, INDIA

Akash Kumar Singh and Arun Srivastava
School of Environmental Sciences
Jawaharlal Nehru University, Delhi - 110067, India
E-mail: srivastava02@hotmail.com

Carbonaceous aerosol (OC and EC) plays an important role in the formation of smog, global warming, and climate change. It also affects human health in various ways. A study was carried out to investigate the difference between the measured concentration of carbonaceous aerosol between two different sampling sites. The study was carried out during winter 2018 over an industrial and a residential area of Delhi, India. Size segregated aerosol samples were collected by using cascade impactor, while OC and EC concentration was measured by carbon analyzer. A clear difference was observed in the concentration of particulate matter, OC and EC. The Highest concentration of OC, EC and PM was observed in the industrial area as compared to the residential area. Emissions from various types of industrial activities and the burning of coal might be the probable reason for the high concentration of OC and EC in the Industrial area. PM10 and PM2.5 concentrations were found to be more than three-time higher than the 24 hours average concentration of national ambient air quality standard, India. The percentage contribution of OC and EC were found to be nearly 27% and 11% in Industrial, while 21% and 9% in the residential area, respectively. The OC/EC ratio of >2.0 was observed at both the sampling sites but a higher ratio in a residential area, which indicates the formation of secondary organic aerosols in the atmosphere over Delhi. The higher concentration of OC and EC can adversely affect the atmospheric properties and health of the people. Therefore, efforts should be made to control carbonaceous aerosol pollution.

Keywords: *Elemental Carbon, Organic Carbon, Particulate Matter, Pollution*

Abstract No. 04

IMPACT OF COVID-19 LOCKDOWN ON WATER QUALITY OF INDIAN AQUATIC ENVIRONMENT

Anita Singh and Rakshanda Jabbar
Department of Botany, CMP College, University of Allahabad, Prayagraj-211002

Email: anita2singh@gmail.com

The COVID-19 lockdown may have forced people to stay home, but it's been a benefit for the environment. Due to the mandatory restrictions, pollution level in many rivers of India drastically slowed down just within few days which influence discussions regarding lock-down to be the powerful alternative measures to be implemented for controlling water pollution. With people staying home, no agricultural work and industries shut due to lockdown, nature appears to be in reconstruction mode. During lockdown, Ganges one of the most polluted river, its water quality upsurges because industries are not discharging untreated organic toxic effluents and also sewage pollutants into the river leading to enhanced bacterial action in Ganga river water. Organic pesticides contaminants into water bodies also reduced by restricted agricultural work during lockdown. Central Pollution Control Board (CPCB) recorded 50% decrease in the release of industrial and sewage pollutants. According to M. Arif (2020) river Yamuna, also showed reduction of pH, DO (Dissolved Oxygen), BOD (Biological oxygen demand) and COD (Chemical Oxygen Demand) from 1-10%, 51%, 45-90% and 33-82% respectively during the lockdown, which is a signal of good water quality. CPCB reported that Fecal Coliform Count (FCC), the primary indicator of portability has also decreased.

However, lockdown is considered fruitful for the recovery of water bodies but it is not a permanent solution to clean water. Lockdown pause the Indian economy badly and now to improve economy government unlock all human activity one by one. It is found that the pollution level increased in both rivers after unlock. Therefore, we need to develop a method to clean water which should be permanent, safe and economically feasible. Bioremediation is considered as safe, less expensive and eco-friendly method for removing the toxic chemicals into nontoxic chemicals from the water bodies by living organisms.

Keywords: COVID-19, Lockdown, Water quality, Ganga, Yamuna, Bioremediation

Abstract No. 05

ENVIRONMENTAL SUSTAINABILITY

Ashwani Sharma and Archana Pandey*
Department of Chemistry, CMP Degree College
(A Constituent PG College of University of Allahabad)
Prayagraj, UP, Pin – 211002, India
Email : archanaapandey@yahoo.co.in

In essence, 'sustainability' refers to the ability of something to continue over time sustainability is only one element of this, being defined as "the qua damage to the environment and therefore able to continue for a long time" e. Environmental lity of causing little or no. From the air we breathe to the water we drink and use, life here on Earth depends on the natural resources and the environment around us. Reducing the environmental impact of health care is important not least because human health is inextricably linked to the health of the environment. Environmental sustainability in health care is not limited to decreasing energy use and waste, but extends to better procurement decisions, improved infrastructure and planning, public and preventive health care, and innovative care pathways.

Abstract No. 06

CLEAN WATER AND ITS IMPORTANCE WITH RESPECT TO HEALTH AND SANITATION

Chandrima Goswami
School of Environmental Studies, Jadavpur University, Kolkata
Email: chandrima2345@gmail.com

Freshwater which is a finite natural resource is one of the basic needs for all life forms. Owing to its availability and cleanliness, it is important for the daily requirements and sustenance of human life. Mankind is facing an increasing scarcity of clean water resources. With increase in population and demand for food and its cultivation, water use has increased dramatically around the globe over a last few decade. With overuse and over-demand for water for our living, there is increasing consumption of surface and even groundwater and that has caused a severe depletion of the natural resource. Over 70 percent of water throughout the world is being used for agriculture. The growing water crisis in turn, is found to affect the agricultural cultivation as well as the health of people. Apart from other countries like China, the situation is worse in India as well, with larger parts of the country already facing food insecurity and is in need to develop clean water supply for its irrigational purposes, with need to build increased efficiency of water use with proper management system. Modes of water conservation practices (such as plumbing fixtures), rain water harvesting, grey water recycling by municipalities, use of low flush toilets etc are some ways that shall definitely reduce the usage of water. To reduce demand for water for irrigation, some of the sustainable ways of water management includes drip irrigation process, cultivation of high yield variety crops (HYV) that are tolerant under severe conditions. Water conservation can also be promoted in cities largely with appropriate water pricing for all users. Consumers are needed to be educated about the efficacy of clean water and sanitation-associated health risks and crises, together with the different choices they can make and adopt to have safe water access. Therefore, it is the need of the time to be creative in approach and address the requirements that are fundamental for conservation of water and its sustainable use.

Abstract No. 07

STRATEGIES FOR ENHANCED REMOVAL OF PHARMACEUTICAL COMPOUNDS FROM WATER BY MICROALGAE

Jyoti Sharma
Amity Institute of Biotechnology, Amity University, Noida
Email: sharmaj4696@gmail.com

The pervasive occurrence and distribution of pharmaceuticals is one of the emerging issues that has gained huge scientific interest in last few years. The unrestrained release of pharmaceutical wastes in the environment has resulted in increased concern about their harmful effects on living organisms and environment. They are generally present in low concentrations i.e. from µg/L to mg/L range in environmental matrices, but show hazardous impacts on biota even at such levels. Due to increased awareness, pharmaceutical compounds have also been reported to be present in drinking water. Currently, treatment of these pharmaceutical contaminants through different treatment methods is not effective and associated with major drawbacks like high operational costs, requirement of harsh reaction conditions and formation of large amount of toxic sludge. Therefore, there is a crucial need for developing a cost-efficient, environment friendly and more effective treatment system. Microalga can be considered as a potential candidate for remediating pharmaceuticals as it has demonstrated high capacity to treat various organic and inorganic pollutants. Removal of pharmaceutical compounds utilizing microalgae has various advantages like easy operation, low capital investment, no generation of harmful by-products. Simultaneously, the treatment efficiency of microalgae can be enhanced by various approaches such as using microbial consortia and integrating nanoparticles with microalgae. These strategies result in improved degradation of pharmaceutical compounds in less time period and increase the practical feasibility of these treatment processes. Hence, through these strategies, we can achieve effective treatment of pharmaceutical compounds from water.

Keywords: *Pharmaceutical compounds; microalgae; nanomaterials; microbial consortia; degradation.*

Abstract No. 08

WASTE-WATER TREATMENT AND ELECTRICITY GENERATION SIMULTANEOUSLY THROUGH MICROBIAL FUEL CELL

Kumar Gaurav
Assistant Professor, Amity Institute of Biotechnology
Amity University; Haryana
Email: gauravbche@gmail.com

Microbial fuel cell (MFC), bio-electrochemical and promising technology to extract the energy of substrate and converts into electrical energy through the catalytic reaction of microorganism. It removes electron and proton from substrate through oxidation. Electrons are transferred through anode to cathode via external load, while protons are diffused through proton exchange system that separate cathodic and anodic chamber. Waste water contains several organic and inorganic substances; therefore, power generation through MFC can provide economical feasible solution for environmental pollution. In present study, two-chambered microbial fuel cell with salt bridge system was studied. MFC was assessed in terms of power generation and reduction in chemical oxygen demand (COD) biochemical oxygen demand (BOD) and total dissolved solid (TDS). The COD, BOD and TDS removal efficiency was achieved 80%, 76% and 72 % respectively. The maximum output voltage was 320 mV. Thus, MFC was efficient green technology for waste water treatment and energy generation.

Abstract No. 09

REMOVAL OF METHYLENE BLUE AND COOMASSIE BRILLIANT BLUE R-250 DYES FROM CONTAMINATED WATER WITH THE HELP OF BANANA PEEL ACTIVATED CARBON

Mahesh Kumar Gupta and P. K. Tandon*
*Department of chemistry, University of Allahabad, Prayagraj
Email: mahesh27620@gmail.com

Acid activated carbon obtained from cheap, non-toxic and locally available banana peel was used as a low cost and efficient adsorbent for the removal of dyes Methylene Blue (MB) and Coomassie Brilliant Blue R-250 (CBB R-250) from the aqueous solution. Changes in the resulting material before and after activation and after treatment were studied by different techniques, such as SEM-EDX, XRD, FTIR measurements. Effects of duration of treatment, amount of banana peel activated carbon, pH, and initial methylene blue and CBB R-250 concentration, on the removal of dye were studied to get optimum conditions for maximum dye removal. Removal efficiency of the activated ash remains almost constant in a wide range of pH from 2.5 to 5.6. In 30 min and 45 min at room temperature removal of 99.8 % methylene blue (cationic) and 99.3 % CBB R-250 (anionic) dyes with 20 mg and 75 mg, respectively was obtained from the contaminated water having 10 ppm dye concentration.

Keywords: *Activated carbon, Banana peel, Adsorbent, Dye, Methylene Blue and CBB R-250.*

Abstract No. 10

A GREEN APPROACH FOR ELECTRON TRANSFER SYNTHESIS OF HETEROCYCLIC COMPOUNDS

Manish K Srivastav
Department of Chemistry, KAPG College, Prayagraj
E-mail: manish.chem2009@gmail.com

Heterocyclic compounds containing five and six membered rings show various biological and physiological activities. Our main motto is to find out a new eco-friendly synthetic method for the synthesis of these useful compounds. Electro organic synthesis may work as an efficient and powerful tool in organic synthesis, due to its non-polluting reagent, the electron. It was carried out with two selected electrodes, a nonaqueous solvent and a supporting electrolyte. Activation of inert precursors through electron transfer consists in pulsing the potential of an electrode to cathodic potential to generate in turn a radical anion. The structure of the radical anion and the environment in which it is generated both influence its subsequent reactions to give desired heterocyclic compounds. This method is very simple, atom economic and eco centric due to direct involvement of electrons using less or no hazardous reagents hence it may be a part of green technology.

Abstract No. 11

STATUS OF FITNESS AND WELL-BEING OF RURAL AREAS PEOPLE IN INDIA

Yogesh Mishra
Assistant Professor, Department of Zoology
Bhavan's Mehta PG College Bharwari Kaushambi UP India
Email- y.mishra2701@gmail.com

In India the rural areas are very downtrodden due to lack of several things there. Lack of proper education and awareness is a major factor in rural areas to create problems like malnutrition, deficiency diseases and mineral deficiency in villages. Yet the community health services are provided by the government but they are not functioning well as required. This is the reason by which the village people are migrated towards urban areas. In the present context of covid-19 pandemic they face many difficulties to live in villages.

Abstract No. 12

COMPUTATIONAL SCREENING OF SELECTED METALLIC OXIDES OXIDE FOR CARBON MONOXIDE CAPTURE IN OUR ENVIRONMENT

Oyegoke Ademola, Jacob John Olusanya, Oyegoke Toyese

Chemistry Department, Federal University of Technology, Minna, Nigeria.
Laboratoire de Chimie, ENS Lyon, l'Universite de Lyon, France.
Email: [1]OyegokeAdemola25@gmail.com , [2]John.jacob@futminna.edu.ng,
[3]ToyeseOyegoke@gmail.com

Air pollution has been a vital subject attracting the attention of experts into ways this can be minimized as the called for global warming dues to release of these poisonous gases which are friendly to our health. Bulk the discharged gases are traced to the use of fossil fuel and the burning of biomass, which pollutes our environment by the emission of carbon monoxide (CO) to the atmosphere, which has been said to be a dangerous air pollutant with adverse effects on man and its environment. As a way for devising a solution for the better management of air pollution, this study computationally screen and evaluate the CO adsorption potential of different selected metallic oxides, M_2O_3 (M = Fe, La, and Gd) such as Fe_2O_3, Gd_2O_3, and La_2O_3 which could be used as an active agent for CO capture and sensation as an adsorbent with the aid of a molecular modeling application called Spartan. The Lewis acidity of the cluster's adsorption sites was equally evaluated via the use of ammonia as a basic molecular probe. Findings from the study reveal that the site acidity has a direct relation to adsorption strength. The study indicates the metal site of the various clusters were generally more acidic compared to oxygen sites. Moreover, the Fe_2O_3 was found to be of higher acidity and better adsorption potential for CO compare to the other metal oxide considered. Thus, Fe_2O_3 would be more promising for the CO adsorption based on the findings from this study.

Keywords: *Adsorption, Pollution, Adsorbate, Adsorbent, Binding Energy, Lewis Acidity.*

Abstract No. 13

PHYTOTOXICITY OF MERCURY IN PLANTS

Dr. Preeti Singh
Department of Botany
S. S. Khanna Girls' P. G. College, Prayagraj
Email: botany.ssk@gmail.com

Mercury is a highly toxic element that is found both naturally and as an introduced contaminant in the environment. Natural sources of atmospheric mercury include volcanoes, geologic deposits of mercury and volatilization from the ocean. All rocks, sediments, water and soils naturally contain small but varying amounts of mercury. The toxic effects of mercury depend on its chemical form and the route of exposure. Methyl mercury (CH_3Hg) is the most toxic form. Contamination of soils by mercury is often due to the addition of this heavy metal as part of fertilizers, sludges, lime and manures. The effects of Hg's forms depend of the concentration and time of exposure to plants. Inside the cells, mercury ions tend to form covalent bonds, because of their easily deformable outer electron shells. The possible causal mechanisms of mercury toxicity are changes in the permeability of the cell membrane, reactions of sulfhydryl (-SH) groups with cations, affinity for reacting with phosphate groups and active groups of ADP or ATP and replacement of essential ions, mainly major cations. Mercury contamination directly affects all the plant development and growth stages by causing abnormal germination, reducing biomass production, inhibiting photosynthesis and impairing water absorption.

Abstract No. 14

CROSS ADAPTATION TOLERANCE OF ANTIOXIDANTS IN COWPEA SEEDLINGS TO NACL AND PEG STRESS

Riya Johnson and Jos T Puthur*
Plant Physiology and Biochemistry Division, Department of Botany, University of Calicut, C.U. Campus P.O., Kerala-673635, India
Email: riya.johnson7@gmail.com

Oxidative stress is a major abiotic constraint limiting crop production worldwide. In the current study, we investigated the adverse effects of oxidative stress in cowpea on exposure to PEG-6000 and NaCl stress to determine whether peroxidase (POX), superoxide dismutase (SOD) and catalase (CAT) activities are effective in the protection of cowpea. NaCl (75 Mm) and polyethylene glycol (PEG) (15%) strengths were used after standardization for oxidative stress induction. NaCl and PEG stress period spans for ten days during the seedling growth stage. It was observed that enzymatic activity significantly reduced under NaCl stress as compared to PEG. NaCl stress also led to pronounced decreases in the activities of catalase, and superoxide dismutase, but resulted in the increase of guaiacol peroxidase and Ascorbate peroxidase and the two enzymes acted in a cyclic manner to remove H2O2, which did not accumulate in stressed seedlings. But plants subjected to PEG stress exhibited an increase in SOD and POX activities whereas shows a decrease in CAT and non-enzymatic oxidants such as glutathione and total phenolics. In conclusion, it appears that oxidative stress alters the equilibrium between free radical production and enzymatic defence mechanism by altering the activities of antioxidant enzymes. Thus, the cowpea plants have much tolerance potential to survive under higher levels of PEG stress as compared to NaCl stress.

Abstract No. 15

PHYTOREMEDIATION – A ENVIRONMENTAL FRIENDLY TECHNIQUE FOR CLEAN UP OF HEAVY METAL CONTAMINATED SOIL &WATER

Shabnam Parveen
S. S. Khanna Girls Degree College, Allahabad
Email: p_shabnam786@rediffmail.com

Contamination of soil by toxic elements is a global issue of rising importance due to the increased anthropogenic impact on the natural environment. Phytoremediation (the use of green plants to clean up polluted soil and water resources) is effective and affordable technological solution approach for remediating environmental media particularly suited to large sites. This technology is environmentally friendly and potentially cost effective. Phytoremediation can also contribute of the improvement of poor soils. Some of the plants used in phytoremediation are Alfalfa, Blue Green Algae, Sudan Grass, Bermuda Grass, Sunflower, Braken Fern, Carrot, Switch Grass, Poplar tree, Arrow root and Duck weeds etc.

Abstract No. 16

GUAR GUM INSPIRED NICKEL OXIDE (GNiOc) NANOPARTICLE: SYNTHESIS, CHARACTERIZATION AND CATALYTIC EVALUATION

Shehala, Kirti Baranwal, and Vandana Singh
Department of Chemistry, University of Allahabad, Prayagraj
Email: shehalasiddique@gamil.com

An efficient catalyst (GNiOc) synthesized using direct precipitation method using guar gum as stabilizing agent. The synthesized (GNiOc) have been characterized using Fourier transformation infrared spectroscopy (FTIR), UV-Visible spectroscopy (UV-Vis), X-ray diffraction (XRD), Brunauer Emmet Teller (BET) surface area analysis, Scanning electron microscopy (SEM), Transmission electron microscopy (TEM), and Thermal (TGA and DTA) analysis. The synthesized material (GNiOc) act as an efficient catalyst for reduction of 4-nitrophenol (4-NP) (2 mM) using sodium borohydride (0.1 M). The reaction was completed within 2 min when GNiOc (5mg) was used as catalyst. GNiOc could be successfully recovered and reused for six repetitive cycles and even in the sixth cycle; the reduction was completed in 18 min time. The reduction followed zero order kinetics, the rate constant being 8 × 10-3mmol L-1 min-1.

Abstract No. 17

POPULATION OF LADY BIRD BEETLE ON VEGETABLE CROPS AND USE OF SAFE PESTICIDES FOR BIODIVERSITY CONSERVATION

Sunil Kumar Ghosh
Department of Agricultural Entomology, BCKV
Kalyani, Nadia, West Bengal-741235, India.
Email: skghosh1969@gmail.com; sg_bckv2014@rediffmail.com

Various predators, parasitoides and pathogens cause natural suppression of insect pests of different vegetable crops particularly eggplant/brinjal, tomato, chilli, ladysfinger etc. Among the different predator's lady bird beetles play an important roll in the natural suppression of destructive insect pests viz., jassid, aphid, thrips, mites and eggs of many other insect pests. Coccinella sp., an important lady bird beetle in the Gangetic plains of West Bengal, India was found very active, feeding on different insect pests of eggplant and other vegetables throughout the year. The level of population varied from year to year depending on their host and prevailing weather conditions. Analysis of data throughout year revealed that initially its population was recorded higher during March-April and then declined. Highest average population (4.87 Coccinella/plant) was recorded during March (11th standard week) when the mean temperature, mean relative humidity and weekly rainfall were 23.8°C, 74.2 % and 8.2 mm respectively. Coccinella incidence showed significant positive correlation (p= 0.05) with maximum temperature and significant negative correlation with maximum, minimum and mean relative humidity whereas with minimum and mean temperature and rainfall the correlation was negative but non-significant. The population of Coccinella was found throughout the growing period of ladysfinger feeding on destructive pests. In the kharif season, population was found higher (3.5/plant) during 3rd and 4th week of July in active vegetative growth of the crop. In early stage of crop growth different insect pests on vegetable crops can be controlled with protective synthetic insecticides but cause harmful effect to the bio-agents and causes biodiversity loss. The control of pests through synthetic pesticides is rather difficult as there is possibility to retain toxic residues in the fresh cut vegetables which cause health hazard and environmental pollution. From field evaluation of insecticides on eggplant it was revealed that insecticides of biological origin were relatively less harmful to Coccinella than synthetic ones. The pathogens, Bacillus thuringiensis Berliner and Beauveria bassiana (Bals.) Vuillemin caused significant lower killing of the predator (less than 40 %) whereas the synthetic insecticides, DDVP and malathion caused significantly higher killing (more than 50 %). Botanical and microbial insecticides are bio-pesticides having less or no hazardous effects on bio-agents, human health and the environment, and therefore, they can Be incorporated in Integrated Pest management Programme (IPM) and sustainable agriculture.

Keywords: *Seasonal incidence, predator, biopesticides, vegetable IPM, Sustainable Agriculture*

Abstract No.18

SUPER SPREAD OUT AND THE AEROSOL EFFECT OF COVID-19

Swarnima Mishra
Assistant professor
Department of Teacher Education
S. S. Khanna Girls' Degree College
Email: swarnima0708@gmail.com

Rising incidents of corona virus disease among humans is an increasing concern of all nations worldwide. SARS-COV-2 (Severe acute respiratory syndrome coronavirus2) a new type of corona virus, identified by World Health Organization (WHO) after its outbreak in Wuhan city of China in December 2019 and the disease named as COVID-19. COVID-19 triggers respiratory tract infection. It affects upper respiratory tract (sinuses, nose, throat) and lower respiratory tract (windpipe and lungs). Widespread in China and 94 other countries and territories, the COVID-19 epidemic has resulted 103168 confirmed cases including 22,365 outside mainland China with 3,507 deaths reported (March 7, 2020). Due to its increasing menace to global health, WHO declared the outbreak a Public Health Emergency of International Concern on 30 January 2020 and a Pandemic on 11 March 2020. As of 20 July 2020, more than 14.5 million cases of COVID-19 have been reported in more than 188 countries and territories resulting in more than 606,000 deaths; more than 8.13 million people have recovered according to WHO. Modes of transmission for SARS-COV-2 includes; - contact and droplet, airborne, fomite mother to child and animal to human transmission. Current supposition on COVID-19 transmission processes differ in different methods to imitate the fate of virus into the air. Some experimental data provides evidence to the suppositions while others still need to be explored. The outcomes of laboratory experiments are enough to support the airborne transmission of SARS-COV-2 due to its tenacity into aerosol droplets in a feasible and infectious for. Further scientific studies revealed that small particles with viral content may travel in indoor environments, covering distance up to 10m starting from emission sources, thus activating aerosol transmission.

World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) standardized the particles, more than 5 micrometers as droplets and less than 5 micrometers as aerosol or droplet nuclei. Droplets less than 5 micrometer could remain suspended in the air for many minutes to hours. Smaller diameter droplets are more efficient at penetrating deep into the pulmonary system leading to high infection risk. These droplets are transmitted while coughing, talking or even breathing. Droplets could cover the distance greater than 2 meters according to the available information about the SARS-COV-2 spreading worldwide.

The amalgamation of droplets nuclei and particulate matter are considered reasonable especially under low temperature and high relative humidity levels allowing droplets nuclei

to be stabilized.

According to aforesaid conditions regarding airborne transmission of corona virus essential measures should be adopted globally. Requisite adoption of Face Masks. Follow up of Social Distancing up to 10 meters. Avoiding busy crowds. Effective sanitization of the high-risk area. Room ventilation, open space, proper use and disinfection of toilets can effectively limit aerosol transmission of SARS-COV-2.

Abstract No. 19

VISIBILE LIGHT DRIVEN SYNTHESIS OF SOME IMPORTANT ORGANIC COMPOUNDS

Swastika Singh
Assistant Professor
Department of Chemistry
S. S. Khanna Girls Degree College Allahabad
Email: swastikasingh99999@gmail.com

Recently, photoredox catalysis has come to the forefront in organic chemistry as it giving a great opportunity for the synthesis of fine chemicals by utilizing unending resources like visible light and air, visible-light-photoredox catalysis has offered to synthetic organic chemists a new platform for the construction of C-C and C-X (X = N, O, S, P etc.) bonds Moreover, the field of visible-light-photoredox catalysis is attractive because it has capability of dioxygen (air) activation. Dioxygen is not only green oxidant but also an ideal oxygen source for the functionalization of organic molecules. Seeking dioxygen activation by organic molecules is an interesting and sustainable approach for green synthesis of fine chemicals, especially in the pharmaceutical industry. metal-free organic dyes such as eosin Y, fluorescein, Rose Bengal, methylene blue, pyrylium salt and acridinium salt have been used as economically and ecologically superior surrogates in visible-light-promoted organic transformations involving single electron transfer (SET).

Abstract No. 20

PHYTOCHEMICAL STUDIES IN SOME VARIETIES OF SOYBEAN *[GLYCINE MAX (L.) MERR.]* AND THEIR HYBRIDS

ANILA JUHI
Department of Botany
Vinoba Bhave University, Hazaribag-825301
Jharkhand, India
Email: anila.juhi@gmail.com

Abstract

In the present investigation, an attempt has been made to congregate the phytochemical studies done on intervarietal crosses of soybean (*Glycine max* L).The eleven F1 hybrids were obtained by intervarietal crossing done using five varieties of soybean viz Bragg, NRC7, Punjab1, PUSA 98-14 and JS9560 which were obtained through the courtsey of NBPGR. Estimation of phenols was done by FCR Method using Gallic acid as standard. The total phenolic content was found highest in the cross JSXNR having 3.10 mg GAE per gram and lowest in BGXNR having and 1.10 mg GAE per gram of soybean dry matter .Total tannin content was determined using FCR method after removal of tannins by adsorption on insoluble PVPP. Total tannin content was highest in NRXJS with 1.99mg GAE per gm and least in BGXPN with 0.75 mg GAE per gm. In addition , total flavonoids were determined using $Alcl_3$ reagent and antioxidant activity by DPPH method. Total flavonoids was found maximum in PNXNR and least in PUXPN having 0.93 mg CAE per gram and 0.33 mg CAE per gram respectively. Highest Antioxidant Activity was 50.31% in JSXPN and lowest was 39.08%in NRXJS. The results suggested that besides protein and oil contents, the phenolic contents should also be considered as an important characteristic feature of soybean seeds, and as a potential selection criterion for antioxidant activity in soybean.

Key words: *Soybean, Phytochemical, Phenols, Tannin, Flavonoids, Antioxidant Activity, DPPH Assay.*

Abstract No. 21

COVID-19, HEALTH AND SANITATION

Alok Malviya
Assistant Professor
S.S. Khanna Girls' Degree College, Prayagraj
Email: alokmalaviya05@gmail.com

During the outbreak of COVID-19 the sanitation plays a vital role on the health of human race before the COVID-19, we do not follow the sanitation measures very strictly and also we do not care for our hygiene which lowers the immunity.

During this pandemic we came across various measures of sanitation and we consume food products which are essential to boost our immunity the use of safe water, sanitation and hygienic condition is useful in protecting human health during all infectious disease outbreak, including the COVID-19 outbreak. Wash and waste management practices in communities, homes, colleges, marketplace, etc and health care facilities will further help to prevent human-to-human transmission of the COVID-19 virus. In the present paper the main focus will be on immunization health and sanitation.

Abstract No. 22

EVALUATING THE EPIDEMIC DISEASES ACT, 1897

Apoorva Singh
Research Scholar
C.M.P Degree college, Prayagraj
Email: apoorva0194@gmail.com

An Epidemic disease is one "affecting many persons at the same time, and spreading from person to person in a locality where the disease is not permanently prevalent".

The World Health Organization (WHO) defines Epidemic as a disease occurring at the level of a region or community. The term 'Epi' means "upon, among" and 'demic' means "people, district". In common parlance Epidemic means and refers to a disease or anything resembling a disease which is affecting individuals of a community or the population simultaneously.

It was on the 23rd September, 1896 when the first official case of Bubonic plague was reported in India by a physician named A.G. Viegas in Bombay Presidency. The disease had its origin in Yunnan, China. Bubonic plague was caused by the bite of infected fleas in rodents or contacts with the carcass of an infected rodent in humans. The disease became a pandemic and was spread across the globe costing millions of life. Historian Myron Echenberg wrote in his Plague Report; The Global Urban Impact of Bubonic plague, 1894-1901,

"Between (the) plagues arrival in 1896 and 1921, an estimated 12 million Indians lost their lives compared with the 3 million in the rest of the world combined".

At the onset, the British authorities took little action to stop the spread of the bubonic plague in India, however, as the situation went out of control, they hastily drafted and enacted the Epidemic Diseases Act in 1897. The act was the need of the hour back then as it aimed to control and curb the spread of bubonic plague in India.

The Epidemic Diseases Act, 1897 comprised of four sections and extended to the whole of India. The Act empowered the State as well as Central Government to take special measures as also to prescribe regulations to prevent the outbreak of such diseases or its spread thereof. The Act further provides for a provision of Penalty envisaged under section 3 of the Act. This section clearly stated that if a person disobeys any regulation or order made by invoking the power from the Act, then such person is liable to be punished and it shall be deemed that he has committed an offence punishable under section 188 of Indian Penal Code, 1860. Thus the punishment for defying the orders passed under the Act was in accordance with the provision of the Indian Penal Code.

The Epidemic Diseases Act is not redundant and is invoked even today whenever the Country faces an epidemic. The most recent example being the ongoing Covid-19 pandemic. The act was invoked by the Government and is currently into operation although an amendment was made into the Act by passing a Government Order to overcome the shortcoming of the Act.

Abstract No. 23

FERROPTOSIS: A THREAT TO HUMAN BRAIN

Sippy Singh
Assistant Professor
Department of Zoology
S.S. Khanna Girls' Degree College, Prayagraj-211003
sippysingh.ssk@gmail.com

Ferroptosis can be defined as a new form of apoptosis. Unlike normal apoptosis and autophagy, it is an iron-dependent and ROS (Reactive oxygen species) dependent cell death which is characterized by various cytological changes affecting many biological processes. This has been reported to lead into cell abnormalities caused due to loss of selective permeability of plasma membrane because of increased lipid peroxidation. The regulatory mechanisms of ferroptosis, includes amino acid metabolism, lipid metabolism, iron metabolism and amongst various effects of ferroptosis, it has also been suggested to play a vital role in the progression of various neurodegenerative diseases. Thus, human brain is an important target of this mechanism. Common types of ferroptosis-related nervous system diseases include spinal cord trauma, Alzheimer's disease, Huntington's disease, cerebral ischemia, Parkinson's disease, cerebral haemorrhage, Friedreich ataxia, brain tumour etc. Thus, ferroptosis poses a serious threat to human brain as it may cause neuronal death and make the brain more susceptible to neurodegenerative disorders.

KEYWORDS: *Ferroptosis; Brain; Neuronal death; Neurodegenerative diseases*

Abstract No. 24

IMPACT OF AIDS ON HUMANS

Durgesh Singh
Assistant Professor
Department of Zoology
S.S. Khanna Girls' Degree College, Prayagraj-211003
ddurgesh12@gmail.com

Human immunodeficiency virus (HIV) is an infection which leads to autoimmune disorder referred to as Acquired Immune Deficiency Syndrome or AIDS. HIV, a retrovirus adversely infects the immune system of a human by targeting the CD4+ T-helper cells, accessory cells and the macrophages. On entering into target cell, viral genomic RNA of HIV undergoes reverse transcription and forms double stranded DNA (ds-DNA). Further this ds-DNA integrates into target cellular DNA with the help of enzyme integrase. At this point of time the virus can get transcribed into new viral RNA and proteins that are released from the cell. Of the two major classes of HIV, HIV-1 is more virulent, infective and the major cause of HIV in humans while HIV-2 is less infective and a few people are exposed to it. HIV infection is spread from mother to foetus, through contaminated hypodermic, infected blood transfusions and unprotected sex. Destruction of CD4 cells during HIV infection results in weaker immune system which increases the risk of developing infections and becoming ill. Other effects of this infection on humans are kidney damage, development of flu like symptoms, dementia etc.

KEYWORDS: *AIDS; HIV; CD4; Immune system*

Abstract No. 25

SCIENTIFIC DISPOSAL OF FACE MASKS AND PPE KIT DURING THE COVID-19 PANDEMIC TO ENSURE SAFE PUBLIC HEALTH AND SUSTAINABLE ENVIRONMENT

Ayan Banik
Research Scholar
Electrical Engineering, Cooch Behar Government Engineering College, West Bengal

To regulate and strategically manage the potential threat of a global pandemic outbreak, it has been advised to stay in self-quarantine and ensure facial mask while venturing out homes to minimizes the risk of spreading these deadly viruses. In this crisis hour, face mask has proven significant role to safeguard precious lives by reducing the risk of community transmission. Besides, there has been a unique contribution of personal Protective equipment kit to ensure complete safety to health workers, authorities and corona warrior of various kind, in turn, allows them to execute their respective duties efficiently. PPE kit with face masks combinedly prevents airborne viruses to enter into host bodies through different openings such as nose, mouth and other sensitive places. In recent times it has been observed that most of the population are least bother about the serious consequences of the mishandling of used masks and PPE kit. As per the recent guidelines or advisory of world health organization, it has been clearly instructed to treat this as medical waste and hence refrain from casually throwing. The recent scenario is alarming as no considerable preventive model has been adopted to fight against this unarmed enemy. Researcher and scientific community worldwide have been trying to achieve innovative ways to systematically dispose of ever-increasing medical waste, thus preventing the collapse of the public health ecosystem.

A novel initiative has been adopted in designing and fabricating an all-new special incubator which is characterized by biomedical waste treatment facility. It allows face masks and PPE kit to completely sterilize and disposable under environment-friendly technique. This model has been aimed to replace prevalent incineration methodology by green sustainable based alternative. Firstly, the accumulated waste gets disinfected using ordinary bleach solution (five per cent) or sodium hypochlorite solution (one per cent), then high-frequency ultraviolet rays further help in the sterilization process. After getting exposed to UV lights for almost 20 minutes it can now be disposed of by deep burial. The experiment has been performed under standard test condition and moreover, the proposed scheme has been submitted to ICMR for prior approval. This can specifically be proved as a game-changer in post COVID world for its specific scope and outreach plan.

Abstract No. 26

BOOST THE IMMUNE SYSTEM FOR BETTER OVERALL HEALTH DURING COVID- 19 PANDEMIC

Deepa Srivastava
C.M.P. Degree College, Prayagraj
Email : drdeepasrivastava12@gmail.com

The reason that the new coronavirus is spreading so rapidly and having such a significant impact on people around the world is that we lack immunity to it. Our immune system consists of a complex collection of cells, processes and chemicals that constantly defend our body against invading pathogens including viruses, toxins and bacteria. Keeping the immune system healthy year around is key to preventing infection and disease. Making healthy lifestyle choices by consuming nutritious foods and getting enough sleep, regular exercise and managing stress are the most important ways to bolster the immune system.

In addition, researchers have shown that supplementing with certain vitamins, minerals, herbs and other substances can improve immune response and potentially protect against illness. Every day, our body is invaded by foreign organisms, so it is very essential to keep our immune system strong enough to fight these invaders.

Abstract No. 27

ROLE OF IMMUNITY BOOSTER GREEN FOODS IN PREVENTING COVID-19

Fozia Hameed
Research Scholar
Food science and technology, SKUAST-JAMMU

Covid-19 was declared by World Health Organization as a global pandemic. Till now there is no effective preventive and curative medicine available. Several public health measures like frequent hand washing, using alcohol-based sanitizers, wearing face masks and avoiding gatherings have been evolved to fight the pandemic. Besides this, a healthy immune system is also one of the most important weapons to help protect against the viral infections like SARS-CoV-2. Within the nutrition sector a promising body of evidence studying inter-relationships between certain nutrients and immune competence already exists and thus could be an important player in helping the body to deal with the coronavirus. Plant based foods rich in vitamins and trace elements, are essential for the normal functioning of the immune system by increasing and helping the intestinal beneficial bacteria and the overall gut microbiome health. So, by using plenty of water, minerals like magnesium and zinc, micronutrients, herbs, foods rich in vitamin C, D and E and better lifestyle, one can promote the health and can overcome this infection. Furthermore, supplementation of the vitamins and trace elements have shown positive impact on enhancing immunity in viral infections. Research studies have shown that foods containing zinc are involved in the regulation of innate and adaptive immune responses, cell signalling and production of immune cells. High doses of zinc supplementation have also shown immune enhancement in patients with tor queteno virus. Likewise, magnesium rich foods help our body strengthen our immune systems natural killer cells and lymphocytes. It also helps the haemoglobin in our blood which is responsible for delivering oxygen from our lungs to the entire human body, thus, assists in a COVID-19 infection since the virus attacks the respiratory system. Vitamin C, being a strong antioxidant, plays a vital role in controlling viral infections, promoting healing of wounds and improving immunity. Foods rich in vitamin C include fruits like orange, kiwi, papaya, guava and berries and vegetables like broccoli, kale, beetroot, spinach, mushroom and cauliflower. Recently, researchers have highlighted the importance of optimal nutritional status to protect against viral infections and have also provided nutritional advices to reduce damages to the lungs from coronavirus and other lung infections. Priority has been given for supplementation of vitamins, trace elements, nutraceuticals and probiotics. However, ongoing research within this important field is urgently needed.

Key words: *Covid-19, protective measures, immunity booster foods, vitamins, trace-elements*

Abstract No. 28

DESIGN, SYNTHESIS, DOCKING, TOPKAT ANALYSIS AND MOLECULAR DYNAMICS SIMULATIONS OF DIARYLPYRIMIDINE DERIVATIVES AS NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS AGAINST HIV

Vishal Kumar Singh, Himani Chaurasia and Ramendra K. Singh*
Bioorganic Research Laboratory, Department of Chemistry,
University of Allahabad, Prayagraj, UP, India-211002
Email: rksinghsrk@gmail.com

Due to the low toxicity of NNRTIs in comparison to NRTIs, a new series of diary pyrimidine derivatives has been designed as NNRTIs against HIV-1. In silico studies using DS 3.0 software have shown that these compounds behaved as NNRTIs while interacting at the allosteric site of HIV-RT. The designed compounds have shown promising docking results, which revealed that all compounds formed hydrogen bonds with Lys101, Lys103, Tyr181, Tyr318 and π- interactions with Tyr181, Tyr188, Phe227 and Trp229 amino acid residues located in the non-nucleoside inhibitor binding pocket (NNIBP) of HIV-RT protein. The intended molecules have shown high binding affinity with HIV-1 RT, analogous to standard drug molecule - etravirine. TOPKAT results confirmed that the designed compounds were found to be less toxic than the reference drug. Further, employing molecular dynamics simulations, the complexes of the best screened compound 6 and etravirine with the HIV-1 RT protein were analysed by calculating the RMSD, RMSF, Rg, number of hydrogen bonds, principal components of the coordinates, molecular mechanics-Poisson-Boltzmann surface (MM-PBSA)area-based binding free energy and their decomposition for different interactions. The analysis demonstrated the higher stability of compound 6 than the standard drug etravirine with HIV-1 RT. The interactions like hydrogen-bonding, van derWaals, electrostatic and the solvent accessible surface energy have favourable contributions to the complex stability. Thus, the designed compounds have great promise as potential inhibitors against HIV-1 RT.

Key points: *NNRTIs, TOPKAT, RMSD, RMSF, MM, PBSA*

Abstract No. 29

REMOVAL OF CATIONIC DYES FROM AQUEOUS SOLUTION BY SULPHURIC ACID MODIFIED WHITE FRANGIPANI

Jahnabi Deka[1], Hitesh Das[2], Arundhati Devi[3], Pranjit Barman[4] and Krishna G Bhattacharyya[5]

[1]Department of Chemistry, Gauhati University, Guwahati-781014, Assam (India);
[2]Department of Chemistry, M C College, Barpeta-781301, Assam (India);
[3]Resource Management and Environment Section (RM &ES), Institute of Advanced Study in Science and Technology, Guwahati-781035, Assam (India);
[4]Department of Chemistry, National Institute of Technology, Silchar-788010, Assam (India);
*Corresponding Author's Email: jahnabideka05@gmail.com

In this study, we describe sulphuric acid treated white frangipani leaves powder (SWFLP) as bio adsorbent for the adsorptive removal of cationic dye, Methylene blue from its aqueous solution. The characterization of the bio adsorbent was discussed by scanning electron microscopy (SEM EDX), Fourier transform infrared spectroscopy (FTIR), thermo gravimetric analysis (TGA) and contrast electron microscopy. Potential capabilities of the adsorbent have been evaluated by studying some experimental parameters such as solution pH, adsorbent dosage, initial dye concentration, contact time and temperature. The kinetic study has been achieved by the application of pseudo-first and second orders. The results showed that sulphuric acid modified white frangipani leaves powder (SWFLP) is a promising alternative for the biosorption of cationic (MB) dye from aqueous solutions.

Keywords: White frangipani, Potential capabilities, Electron microscopy, kinetic study, Biosorption.

Abstract No. 30

EXPLORING OF ANTICANCER AND OTHER PHARMACOLOGICAL POTENTIAL OF MUSA PARADISIACA. PEEL EXTRACT

Mansi Sharma and Rachana
Department of Biotechnology
Jaypee Institute of Information Technology, Noida-201301
Corresponding Email: rachana.dr@iitbombay.org

Cancer is a group of diseases in which the abnormal cells start growing rapidly in an uncontrolled manner leading to the destruction of the surrounding normal cells. At present there are many therapies and treatment available in the market for the cancer treatment. Apart from their uses these therapies have many side effects as well which promotes on focusing the treatment with the help of the natural, herbal and medicinal plants. One of these plants is the banana exhibiting the anticancer properties. Fruit peels have been a valuable source for maintaining human health. Banana is known to be the most important commercial fruits of the tropics. Its scientific name is Musa paradisiaca. It is member of the family Musaceae. Every parts of banana fruit are known to exert different medical application. It is a natural source of various polyphenols and bioactive molecules due to which it possesses antioxidant, anticancer, properties. The acetic ashes of the unripe banana peel are used in the treatment of malignant ulcers. Banana peel extracts is non-poisonous and non-toxic to the normal human cell lines. The peel is rich in phytochemical compounds such as flavonoids and phenols. It is also enriched with numerous antioxidants such as the Gallo catechin and epicatechin and so the peel and exhibits great antioxidant properties. Many studies reveal that certain banana variety possesses antitumor promoting activities. The extract obtained from the plant possesses antimutagenic properties. The aim of this review is to provide comprehensive information about the anticancer, antitumor and antioxidant properties of the banana peel based on the clinical and the preclinical studies.

Keywords: *Cancer, Banana Peel, Antioxidant, Anticancer, Phytochemical Compounds, Polyphenols*

Abstract No. 31

DNA CONTENT ALTERATION AND CADMIUM ACCUMULATION IN DIFFERENT TISSUES DUE TO LETHAL CONCENTRATION OF CADMIUM EXPOSED CAT FISH (CLARIAS BATRACHUS)

Chinmayee Pattanayak and Bhaskar Behera*
P.G. Dept. of Bioscience and Biotechnology, Fakir Mohan University
Vyasa Vihar, Nuapadhi, Balasore, Pin-756089, Odisha, India.
Email: drbhaskarbehera@gmail.com

In the present study, the acute toxicity experiment was conducted to evaluate LC50 of Cadmium chloride ($CdCl_2$) on Clarias batrachus which was found to be 450 ppm for 96 hours. Clarias batrachus (average length of 8.5±0.4 cm and average weight of 13.5±0.393 g) was exposed to sub-lethal concentration (140 ppm) and lethal (450 ppm) concentrations of Cd for 14 days. Agarose Gel electrophoresis of isolated DNA of muscle tissues of control, sub lethal and lethal concentrations treated Clarias batrachus revealed the disappearance of DNA quantity was more in lethal in comparison to sub lethal and control catfish. Cd is a Geno toxicant which damages the genetic information within a cell causing mutations, which may lead to cancer. The Cd accumulation in tissues of the control and Cd sub-lethal concentration treated catfish was nearly same, but highest accumulation was observed in the lethal concentration of CdCl2 treated fish. The sub-lethal concentration is host friendly. The Cd accumulation of 5 tissues of Clarias batrachus exposed to lethal Cd concentration were absorbed in the following order Kidney>Liver>Muscles>Gills>Bone. So The present result clearly indicate that the discharge of effluents containing Cadmium chloride into the water resources may be threats to aquatic fauna and flora as well as other land animals including human beings. The present result clearly indicates that the changes of these parameters due to lethal concentration may provide an early warning signal to us for their effects in fishes, aquatic animals, terrestrial animals and human beings by biomagnifications. Cadmium is highly toxic beyond its permissible limits of exposure and has acute and chronic effects on aquatic animal as well as terrestrial animals including human beings and environment. If certain steps will not be taken to minimize this heavy metal pollution, it will affect the health of every trophic level of all ecosystems in the environment which may damage the organs, tissues, DNA etc. ultimately may develop new diseases or may be disorders in near future.

Abstract No. 32

PSYCHOACTIVE SUBSTANCES IN HEALTH SUSTAINABILITY

Richa Srivastava
Assistant Professor
Department of Applied Chemistry, Delhi Technological University, Delhi
Email - richa_srivastava@dce.ac.in

Health is necessary for the survival and success of individuals and communities. It is not only about state of physical well-being but also about mental and social well-being which helps us both survive and thrive in our everyday lives. Health sustainability is therefore less about preventing disease than about helping us manage our life situations (favourable or adverse) and utilize our full potential. The inborn desire in human to get away from the hard realities of life occasionally drives them to resort to the abuse of psychoactive drugs that bring about profound pleasurable changes in his personality. A psychoactive drug, also known as psychotropic substance acts primarily on the central nervous system and thus affects function of the brain. They are also therefore, termed as 'mind altering substances'. They have several medical and scientific applications. But they often bring about changes which are pleasant to users thus forcing the user to take it regularly. They have found their place in almost all human societies be it rural or urban. The use of these substances easily goes unnoticed leading to significant change in the perception of user and slowly and slowly user becomes psychologically dependent on these drugs. Drug abuse and addiction have negative consequences for both individuals and society. These psychoactive substances are also useful medicine if used with proper medical prescription and used for the treatment of various ailments. They are the part of modern medicine and hence, they do have their analytical standards in various National and International Pharmacopoeias. These are also covered by Drugs & Cosmetics Act and Rules of various countries. Hence, either for use or abuse, their analysis and quantification always have the role to play. Alprazolam is a benzodiazepine derivative and a short-acting drug used for the treatment of panic attacks and moderate to severe anxiety disorders. The present work deals with the isolation, purification and characterization of synthetic psychotropic drug alprazolam in medicinal formulations and its estimation by validated HPLC and HPTLC techniques.

Abstract No. 33

UTILIZATION OF RICE HUSK FOR THE BIOETHANOL PRODUCTION: "A WASTE TO WEALTH INNOVATION STUDY"

[1,*]Oyegoke Toyese, [1]Obadiah Emo, [1]Mohammed Yahaya Sardauna, [3]Bamigbala Olateju Alao, [4]Owolabi Oluwarotimi Ayokunnu.
[1]Dept. of Chemical Engineering, Ahmadu Bello University Zaria, Nigeria.
[2]Laboratoire de Chimie, ENS Lyon, l'Universite de Lyon, France.
[3]Dept. of Mathematics and Statistics, Federal University Wukari, Nigeria.
[4]Dept. of Economics & Development Studies, Covenant University Ota, Nigeria.

*Corresponding Email: ToyeseOyegoke@gmail.com

In recent years, there has been increased interest in utilizing non-edible biomass majorly lignocellulosic resources in the production of bioethanol to meet increasing energy demand and reduce dependency on fossil fuel. The use of conventional saccharine and starchy materials for ethanol production is prohibitive as it provides food for the world population. This is where rice husk may be of value, providing a means to utilize waste. This present study was undertaken to assess the viability and profitability of the production of bioethanol from rice husk. Simultaneous saccharification was adopted to produce bioethanol from rice husk and the profitability of the production was estimated based on estimations of capital and manufacturing cost and selling price. Further optimization analysis was performed to determine the optimum use of the plant. The results of the study showed that, with a capital of US$ 4.8 million, and manufacturing cost of US$ 9.03 million, processing of 1789.45 kg of crushed rice husk will yield 17.7 million liters of bioethanol. Further, profitability analysis shows that, gross income of $ -1.9 million will be realized based on the present petrol selling price of US$0.4, resulting in a Net profit of US$ -1.5 million and a 31.51% loss on investment to the producer and suggesting the process as non-profitable. Optimization results however showed that Optimum use of the plant results in a return on investment of 16.1% indicating the feasibility of the process, and hence suggesting that the plant should be operated in the optimum condition evaluated.

Keyword: Rice husk; Bioethanol; Saccharification; Optimization; Profitability; Cost

Abstract No. 34

RIBOSOMAL GENES: VALUABLE TOOLS IN PHYLOGENY CONSTRUCTIONS

Shubhra Malviya
Assistant Professor, Department of Zoology
S.S. Khanna Girls' Degree College, Prayagraj
Email: malviya.shubhra@rediffmail.com

Macromolecular sequences have been used to reconstruct the evolutionary relationships between organisms. The extent of difference between homologous DNA, RNA, or protein sequences in different organisms is used as a measure of how much these organisms have diverged from one another during the course of evolution. No molecule has been applied to more questions than have ribosomal RNAs but still Ribosomal RNA genes are considered to be valuable tools for phylogeny constructions

Ribosomal RNA sequences differ between species, due to mutation. Through variation in RNA sequences may be used to distinguish the organisms even of the species level and trace evolutionary relationships. The ribosomal RNA genes contain some distinct features that prove them to be worthful in phylogenetic analyses are:

1. Clock-like behaviour, i.e. sequence divergence in the gene between two organisms should be proportional to how long ago they diverged.
2. Phylogenetic range. The sequence must be present in all of the organisms to be analysed and must have retained its structure & function in these organisms
3. No horizontal transfer. This means that the gene must be acquired only by inheritance, not by transfer from another organism
4. Must have a large existing data set with which to compare the sequences.

Abstract No. 35

MANAGING EMOTIONAL AND PHYSICAL WELLBEING DURING THE ERA OF COVID 19

Sumita Sahgal
Assistant Professor, Department of Chemistry
S. S. Khanna Girls Degree College Allahabad
Email: sahgalprakash2@gmail.com

In January 2020 the World Health Organization (WHO) declared the outbreak of a new coronavirus disease, COVID-19, to be a Public Health Emergency of International Concern. WHO stated that there is a high risk of COVID-19 spreading to other countries around the world? WHO Department of Mental Health and Substance Use as a series of messages that can be used in communications to support mental and psychosocial well-being in different target groups during the outbreak.

Following measures must be taken for making them emotionally sound.

- People who are affected by COVID-19 have not done anything wrong, and they deserve our support, compassion and kindness.
- Minimize watching, reading or listening to news about COVID-19 that causes you to feel anxious or distressed; seek information only from trusted sources.
- Protect yourself and be supportive to others. Assisting others in their time of need can benefit both the person receiving support and the helper.
- Find opportunities to amplify positive and hopeful stories and positive images of local people who have experienced COVID-19.
- Try and use helpful coping strategies such as ensuring sufficient rest and respite during work or between shifts, eat sufficient and healthy food, engage in physical activity, and stay in contact with family and friends.
- Use understandable ways to share messages with people with intellectual, cognitive and psychosocial disabilities.
- Orient all responders, including nurses, ambulance drivers, volunteers, case identifiers, teachers and community leaders and workers in quarantine sites, on how to provide basic emotional and practical support to affected people using psychological first aid.

The COVID-19 pandemic means that many of us are staying at home and sitting down more than we usually do. It's hard for a lot of us to do the sort of exercise we normally do. Regular physical activity benefits both the body and mind. It can reduce high blood pressure, help manage weight and reduce the risk of heart disease, stroke, type 2 diabetes, and various cancers - all conditions that can increase susceptibility to COVID-19. Exercise causes change in antibodies and white blood cells (WBC). WBCs are the body's immune system cells that fight disease. These antibodies or WBCs circulate more rapidly, so they could detect illnesses earlier than they might have before. Thus, by keeping ourself healthy n mentally sound we will be in position to cope this pandemic.

Abstract No. 36

COVID 19 PANDEMIC: USE OF CITRUS FRUITS TO BOOST IMMUNITY

Swati Gupta[1], Akhlaqur Rahman[2] and Shanthy Sundaram[1]
[1]Centre of Biotechnology, University of Allahabad, Allahabad-211002, U.P., India
[2]Department of Biotechnology, S.S. Khanna Girls Degree College, Allahabad.

Citrus plants are rich source of vitamin C, flavonoids and alkaloids. which belong to the family Rutaceae. This includes fruits such as orange, mandarin, lime, lemon. Medicinal plants are the natural resources for developing new drugs. Phytochemicals have been reported to benefit human health and used to prevent and treat some diseases. Phytochemical analysis is very useful in the evaluation of some active biological components of some vegetables and medicinal plants. These secondary plants metabolites are extractable using various solvents that exhibit varied biochemical and pharmocological action in animals. Citrus fruits contain secondary metabolites such as flavonoids, alkaloids etc. This includes naringin and naringenin; Hesperetin, hesperidin present in the manadrin, sweet orange and pummelo. Citrus fruits naringin and naringenin showed very good activity against antiviral, anti-inflammatry, antioxidant antibacterial, antifungal, anticancer, antidibetic activity. Naringin, naringenin could inhibit the expression of proinflammatory cytokines (COX-2, inox, IL-1 and IL -6) induced by LPS in raw macrophage cell lines and citrus flavonoids bind to Angiotensin converting enzyme 2 (ACE 2). This is the receptor of coronavirus consideration for potential anti-coronavirus and anti-inflammatory activity.

Citrus fruits boost the immunity in human body naturally and provide protection against many different diseases which is causes by bacteria, fungi, virus etc. The phytochemical analysis of the citrus peel extracts showed the presence of flavonoids, saponins, steroids, terpenoids, tannins and alkaloids. These compounds contain polyphenols that help to enhance immunity and combat infections. The antiviral property of these secondary compounds maybe exploited for the present and future treatment of corona viral infections to minimize the symptoms and enhance immunity.

Abstract No. 37

TOWARDS A GENDER EQUITABLE SOCIETY: ROLE OF GENDER RESPONSIVE BUDGETING IN THE STATE OF GUJARAT

Amit Rupela[1] & Angela Sarkar[2]
[1]Budget Consultant, Government of Gujarat.
[2]MPhil, School of Economics, University of Hyderabad
angelasarkar9@gmail.com

Gender Budgeting is a policy level document to specify allocations and expenditures towards gender inclusive society. Gender Budgeting is not a separate budget but schemes identified from State/ Country's total budget allocation. It is a tool to analyze the holistic development towards equity and equality. Gender Responsive Budgeting working process was initiated in 2006 in State of Gujarat for mainstreaming gender inclusivity. It started in collaboration with the Finance department, GAD (Planning) and Women and Child development department. State Indicator Framework (SIF) specifies SDG goal of Gender Equality and demarcation of responsibilities with the implementation of Gender Budgeting at the grass root level. The paper evaluates the need of Gender Budgeting and a chain tool at the implementing stage in Pre-COVID times in the state of Gujarat. The performance of parameters is also evaluated in lieu of SDG goal 5 of "Gender Equality" their future implications amidst Covid-19. The study reviews and narrates comprising various schemes/ Yojanas from the respective departments involved in Gender Budgeting and indicators to create a socio-economic model for future implications. Post implementation of GRB indicates improved results in sex ratio at birth, reduction in maternal deaths, immunization, net enrolment ratio, female labour force participation and their wage salary earnings in the state of Gujarat. However, findings on recent data reveals, the pandemic emergency of Covid-19 have led to re-allocation of funds to other priority sectors from the proposed and ongoing policies in the State. It has disrupted the growth of success of such socio-economic indicators of gender equality and has adversely affected the short -term sustainable policy goals of the state. This study can be extended to find alterations in the policy norms and ways to attain gender equality amidst the crisis of the pandemic which can be extended as an agenda model at a country level. Similarly, SDG indicators for the other States can also be an improvised model to achieve holistic development in the times of Covid-19.

Key Words: *Gender Responsive Budgeting, Gender Equality SDG, SIF, Socio-economic indicator, Covid- 19.*

Abstract No. 38

CORONA AND RECONSTRUCTION

Manju Tiwari
Assistant Professor
Physics+Counseling, Kendriya Vidyalaya, New Cantt, Shift-1, Allahabad

INTRODUCTION

Human intelligence is assumed as of higher grade relative to the other species inhabiting in this global system. Human mind is always active for doing some new, discovering, innovative utilisation of available resources around us, for accomplishing any of its life -activity genred need. Side by side population also increased, and gradually through ages, pollution level also became unhealthy for sustainability of life in our global life.

National Consciousness for Development

In habit of escalating it's country's ranking in world ,every country was conscious to heighten multi-facet and advanced technology and tending to improve its global development index. A new national consciousness for armed forces power, nuclear power, happiness indicators, educational institutions gradings factor, economic level index etc. got developed which in totality decided World ranking of different countries, among themselves.

New Focus-Research and Development in Sciences and Allieds

New Focus of different countries was now the Research and development which induced economic linkages also through different evolutionary strategies. Research and development in fundamental sciences and applied sciences was also a prime factor deciding for position of a given country in world. Now economy got linked with many new fields Biotechnology Artificial intelligence Space technology Such innovative approaches in R&D created a new aura of advancent through ages along with economic gains also, but through ages ,these operations resulted in deterioration of global ecosystem gradually.

Natural Capital- Ecological economics views Our Global Ecosystem as the very basic foundation of economy so regard it to be NATURAL CAPITAL, while mainstream economy views it as only a single ,rather unimportant factor of economy production.

CORONA- THE GLOBAL GAME CHANGER ZERO Patient of COVID19, a shrimp seller woman from WUHAN, CHINA has now recovered from corona but when will be this globe corona-free only time will tell. Everyday some new information is getting added in global information system, related to

a) corona-virus
b) symptomatic and asymptomatic patient's differentiation tips,
c) immunity strength factor of corona affected,
d) level of antibodies for corona virus found in healthy blood donors
e) causes of deaths which occurred in pandemic period

It's greatness of scientists who are discovering something new for the global welfare. CORONA - UPSET ECONOMY of whole world REFERENCE studies -Indian states--MAHARASHTRA, PUNJAB, KERALA, Because of corona spread and many variations socio-economic-political-cultural micro dynamism series making visible an unprecedented event on mass scale. This was the reverse-migration due to their newly evolved psyche after decades of micro-stages, with final fuelling by lockdown and unlock series. Now the migrants turned more

sensitive to social identity consciousness. They preferred reverse-migration for future economy prospects. Their breakdown of patience-bridge prevented them to wait for clearance of corona-turmoil.

KERALA govt promptly planned strategies for their proper placements, so that the experienced skilled professional don't return back to their hometown.

UP GOVT steps for rehabilitation of reverse migrants as soon as they become corona-free. Almost, every day new govt orders were issued as per daily corona updates and subsequent needs. Aim was to make reverse-migrants feel convenient at their home state/country. Appreciable and effective. measures were undertaken for ensuring safety of common people from corona virus.

ECONOMY RECONSTRUCTION-due to CORONA

References and examples may be sought from many

a) Indian states
b) Professional fields
c) different countries of world
d) d)national and international organisations etc.
e) other responsive, conscious for social cause and concerned govt and non-govt bodies. It has been observed that great modus-operandi modifications, innovations had been designed
and enacted for recovering for economic downfalls throughout the globe. CORONA -unprecedented pandemic

COVID19 the unprecedented pandemic startled new type of socio-economic-psychological long-aged global event which established that over-exploitation of natural resources around us can result in hazards for whole biosphere. New genetic experiments without perfectly knowing the background and possible consequences, can play havoc all over the global system.If maltreated, NATURAL CAPITAL can disrupt

A. Human resources
B. Global/national/individual economic activities
C. National Gross income for any nation
D. Human relations
E. Balanced total development of an individual/family/organization

NEW GLOBAL SCENARIO-New global scenes appeared which indicated many types of sensitivity points prevalent in this global community like

a) Health policy of different countries,
b) sensitivity of WHO for prompt actions and policing for new normalcy attainment,
c) c)socio-economic-political identity consciousness intensification
d) TEACHING-LEARNING-LEARNING -PROCESS by various educational systems
e) Modications of exam bye-laws for main board exams, public competition exams, various Professional year exams,
f) stabilisation capability levels testing spontaneously etc.

HUMAN RECONSTRUCTION, units combine together with other economic organisations with modified SOP result in overall ECONOMIC RECONSTRUCTION because for sustainability, for bringing about new normalcy globally it becomes compulsion.

Abstract No. 39

EMPLOYMENT GENERATION THROUGH AGRI ENTREPRENEURSHIP

Neha Sharma[1] & S.N. Upadhyaya[2]

Assistant Professor
[1]J.N.K. V V, Jabalpur, M.P.
[2]DES, RVSKVV, Gwalior, M.P.
Email- nehasharma317@jnkvv.org

Indian Agriculture is the backbone of various industry, it provides basic raw material to industry and gives employment opportunity to the persons engaged in the work. In sugar industry farmers grow the sugarcane crop then after harvesting the sugarcane it goes to sugar factory then sugar manufacturing is starts. In India approximate 70% people depends on the traditional farming system. But now days the people engage in farming they change with the demand. The farmer grows which crop which are demanding and they supply through proper marketing channel. In present scenario Innovative farmers are growing cut flowers, mushroom cultivation, and medicinal plants. They make small units for marketing the supplies. In vegetable production in world scenario India become 2nd rank.

Abstract No. 40

SUSTAINABLE DEVELOMENT GOALS IN THE LIGHT OF CHILD MARRIAGES : CHALLANGES AND REVAMPING OPPURTUNITIES DURING COVID-19

Rashmi.G.M[1], Dr. Ravindra. D. Gadkar[2]
[1]Research Scholar, [2]Professor, Department of P.G Studies and Research in Social Work,
Kuvempu University, Shivamogga- Karnataka
ravindragadkar@yahoo.com

The Sustainable Development Goals (SDGs) have in them a set of 17 goals which were adopted in 2015. SDG aims to reconcile economic, social and ecological progress at the global level. It is ensuring a sustainable future for developed and developing countries. In India according to Census 2011, children below the age of 18 years constitute 40% of the total population. Among the 17 goals , about 12 goals are directly related to children, child marriages and child rights. Present paper is going to provide information on the situation of children in urban and rural India in the context of child marriage. Further, it is going to through light on various development goals and especially on issues of children who have undergone child marriages and indicators such as health, motality rate, protection, education, participation and exploitation as compared to SDGs. It is going to deliver information on the situation of child marriage in India and Karnataka with a comparition to southren states of India (Karnataka, Andra Pradesh, Telangana, Tamil Nadu, Kerala, Puducherry, Maharashtra and Goa). It is also attemted to discuss the impact of Covid-19 on the efforts to attain sustainability goals.; It delibarates on the responsibilities of different stake holders in realising the SDG's; Due to outbreak of Covid-19 what are the challenges and alternative paths that could be opted to march towars attaing the aims; How can the monitoring and implimentation can have a shift in it's practice rite from grassroot level to macro level intervention during the pandemic situation?; To discuss on how the judicial system plays a vital role in implimenting the laws without any turbulences. The relationship between child rights and sustainable development is observed as explicit. In times of Covid-19, the pandemic has become a dormant and menace leaving behind the several gaps in the communities. This article outlines the current scenario of dvelopment sector and throws light on various links and convergences that are required to attain the targets and goals of SDGs. The target group (children) have been strongly impacted.

Key Words: *Covid-19; Child Rights; Child Marriage; Children; Pandemic; Out break; Community; Education.*

Abstract No. 41

SOCIO-ECONOMIC SUSTAINABILITY OF THE UNDER-PRIVILEGED COMMUNITIES

Santosh Kumar
Assistant Professor (History),
B. P. S. College, Bhore, Gopalganj. Bihar-841426.
Email: - santoshkreena87@gmail.com

Undoubtedly, impacts of the COVID-19 pandemic on the poor and the under-privileged are more adverse. In fact, it has massively altered their socio-economic norms and practices. They are more vulnerable to it because they do indecent works, have lack of sanitation and poor healthcare facilities. They believe in superstitions or rumours therefore they are more influenced by misinformation or fake news. They are propertyless so seldom face worklessness, income lessness and severe price-rise. Moreover, their women are rightless, their role is limited and have no access to education, information and services. As a result, there is increase in domestic violence and sexual abuse. They are ill-fed and their children suffer malnutrition. Off course, they are anxious and have acute mental stress. They are unaware of disease prevention, fitness and well-being. Most of them use unclean water, take unhealthy food and cook with dung-cakes, firewood, dry leaves, reeds and straw so are prone to get allergic ailments. Affordable and clean energy is out of their reach.

Those belonging to the group of the haves (possessing resources) are recklessly exploiting the environment. On the other hand, the haves-not are marginally not utilizing the resources of the nature equally. They still face poverty, hunger, unemployment, discrimination, inequality, injustice and insecurity. Their capabilities are suppressed everywhere and on them disabilities are imposed because of obsessions and stereotypes.

They are striving hard to maintain living and keep alive now-a-days. It is now duty of the democratic governments to create livelihoods and provide them and to generate more job scope for their women by economic reconstruction, locally reorganizing and capacity building. They must be provided cheap and easy courts as well to ensure justice and peace for them. Likewise, transformation in education system should be in such a way that their boys and girls both could avail. They are required to be taught to co-exist with Novel Corona and to bring about changes in their behaviour to keep fearless psychology.

There is an immediate and urgent need to launch measures for creating a robust and resilient socio-economic fabric which got disrupted in the recent unforeseen situation as well as to re-allocate the natural resources prudentially. It must be given due priority in the process of attaining goals of sustainable development for the weaker sections of the human society. Then it would be called strengthening of the civil society in real sense.

They are one of the wheels of our human society. Hence, it's necessary to design policy to mend their existing conditions unless we do it, we can't protect the Earth and improve the lives and prospects of everyone all where. In that milieu, even the 2030 Agenda of the UNO to eradicate all sorts of disparities and sustain resources for future generations can't be fulfilled.

Abstract No. 42

A STUDY ON GREEN INITIATIVES IN MSME SECTOR

Suchilipsa Das
Associate Professor, Department of Basic Science
Modern Institute of Technology and Management (MITM), Bhubaneswar.
Email: suchilipsadas@gmail.com

The Medium, Small and Micro Enterprises (MSMEs) of India are worst effected sectors due to Covid-19 pandemic. Adoption of green initiatives such as installation of roof top solar panels and waste water treatment in MSMEs sectors can reduce the environmental pollution and reduce the cost though environmental protection is not the primary business of the MSMEs. Solar energy is a renewable source of energy and causes less harm to the environment in comparison to the fossil fuels as fossil fuels produce Green House Gases (GHGs) such as Carbon dioxide, nitrous oxide and methane which cause global warming and climate change. But MSMEs have to overcome some challenges to pursue green initiatives in comparison to larger firms.

Keywords: *MSMEs, Green Initiatives, Solar Energy, Waste Water Treatment*

Abstract No. 43

WILL COVID – 19 GIVE BIRTH TO A NEW ERA OF TECHNICAL REVOLUTION? AN EMERGING PERSPECTIVE

Vinita Mishra
Asst. Professor, Dept. of Med/Mod History
S.S. Khanna Girls Degree College, Prayagraj.
Email- vinita1march@gmail.com

In the realm of infectious diseases, a pandemic is the worst-case scenario. When an epidemic spread beyond a country's borders, that's when the disease officially becomes a pandemic. The coronavirus outbreak came to light on December 31, 2019 when China informed the World Health Organisation of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei Province. Subsequently the disease spread to more Provinces in China, and to the rest of the world. The WHO has now declared it a pandemic. The virus has been named SARS-CoV-2 and the disease is now called COVID-19. It is the most challenging crisis since the second world war which is attacking societies at their core. The planet is suffering, and the most powerful countries have been brought to their knees; it is only the degree of suffering that spells the difference. During the COVID – 19 pandemic technologies are playing a crucial role in keeping our society functional in a time of lockdowns and quarantines. These technologies may have a long-lasting impact beyond COVID – 19. The online marts are helping everyone to be stocked with the groceries, medications while digital payments take care of the contactless deliveries. Apps like Aarogya Setu are making it more feasible to not only monitor contact with the pandemic but also avail the government facilities. Digital platforms and fast internet are making work from home possible ranging from international political relations, business meetings, tele medication to classroom lectures using tools like google meet, zoom whose importance has never been more apparent. With this reference SpaceX's starlink project might come in handy in future who plan on launching a satellite constellation to provide satellite Internet access to the most remote area like a dense forest. Some countries are now relying on drones for various facilities like delivering of goods, spraying of sanitizers, spraying of pesticides in farms. Apart from drone's, prototypes of maid robots have been developed especially for the purpose of hospital cleaning and small chores. COVID – 19 has reshaped our technological priorities along with a farfetched impact on our lifestyles we observe an emerging era of technological revolution.

Abstract No. 44

A SOCIOLOGICAL ANALYSIS OF ENVIRONMENTAL SUSTAINABILITY REGARDING COVID-19 PANDEMIC:THREATS, CHALLENGES AND A WAY FORWARD

Bhagyashree Ojha
Research Scholar, Department of Sociology
University of Allahabad
Email: bhagyashreeojha95@gmail.com

Our environment is the entrance gate to the prosperity of mankind. Its sustainability is crucial to our existence. Environmental sustainability can be defined as a effective and responsible interaction with the environment to avoid degradation of natural resources. Nowadays, covid-19, a global pandemic has been ingrained in a global war, has taken the whole world in its grip, where at the one hand it has put humanity in crisis today, on the second hand it has very bad effect on our environment right now. Achieving sustainability at different dimensions of the Indian society has become a big challenge here. For instance, at political level, there is a need for a skilled and effective leadership as our hon. Prime Minister Narendra Modi has played the role of skilled leader and has taken the right decision at the right time regarding Lockdown and Social distancing. At institutional level, to achieve the sustainability there should be transformation of social norms in positive direction according our ancient Indian culture. Today, there is a need to join hands instead of handshake. Presently, social norms are changing and also there is a need for change in institutional behavior in right sense and we should be currently relevant to our Indian society. As academic founding father of sociology Emile Durkhiem had said about religion that religion is a set of beliefs and practices that grow into an ethical community for those who believe in it and the function of the religion is to bring unity in the society and that unity rests upon the morality. Thus religion talks about the well being of whole society. This pandemic Corona is actually secular in nature because it equal for all the people of different caste, class, religion, gender, status etc. It is equally dangerous for everyone so we cannot fight against it only on the basis of any mean mentality based religion. Here only one religion, religion of humanity will act like an effective instrument in fighting with us against it. As founding father of sociology 'August Comte' suggested that we should consider the one who serves mankind as God, we should follow the religion of humanity because this religion is at the top and inclusive in nature. At present we can see these God of humanity in the medical staff, police staff, and any other staff who are constantly engaging in our service putting their lives at risks. We should worship them. We can see our present society as a consequence of modernity of extreme materialism in which the environment is degraded due to human activities and that's why our society is facing different type of risks including natural, physical and also social risks. As post modern sociologist Ulrich Beck had said

earlier. Now we should turn us back to our Indian Culture and civilization to fight against this pandemic. The western culture that we followed has become indigenous for us which has negatively affected our lives and has fetal outcome for us. Presently, many Covid-19 affected countries are following our great Indian culture and civilization to fight against this pandemic. So we should not move away from our culture. Here is a need to understand the real meaning of social distancing in behavior that we should follow the rule of physical distancing not emotional distancing to maintain unity in the society. Government as well NGO's are working against this pandemic but to get complete success in this direction we all have to give our full contribution at our level.

Abstract No. 45

WOMEN EDUCATION AND SUSTAINABLE DEVELOPMENT

Deepika Ojha
Research Scholar
Department of Education, University of Allahabad, Prayagraj
Email: deepikaojha938@gmail.com

Nature or atmosphere is changeable at every step or moment. Thus, there is no doubt that if we are living in such an environment where we are surrounded by sufficient resources, then it is not certain that the same situation will exist in the future. Therefore, it is matter of deliberation that approaches should be done by the people of all over the world towards sustenance so that development can move on with maintaining availability of resources for future generations too.

This kind of development is called sustainable development. Sustainable development is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services on which the economy and society depends. Sustainable development can be defined as development that meets the needs of present without compromising the ability of future generations to meet their own needs.

Various strategies and action plans have been launched for fulfilling the targets of sustainable development. But it is also a truth that the goal cannot be achieved until the entire population of any nation is being involved. Every society is made up of men and women. But it is distinct to us that women are less educated as compared to men even till now. Various factors hinder their educational development. But it is well known fact that education is the strongest way to achieve any goal for the society, nation or the world. To make any kind of transformation in the society, education plays an important role by developing the thinking and analyzing ability and decision-making capability of the individual regarding any issue or concern. Therefore, if more and more level of education will be increased among the people, the probability of attaining the goal of sustainable development will be increased.

Women play different significant roles in the society, family. Thus, even imagination of creating sustainable atmosphere, skipping or ignoring integral part (women) of the society is not possible. Emphasis on the status of education among women, evaluating and finding out the various alternatives through which problem regarding spread of education among women is the demand for obtaining the goal of sustainable development.

Abstract No. 46

CITIZEN SCIENCE: A NEW APPROACH TOWARDS MONITORING NATIONAL AND INTERNATIONAL BIODIVERSITY

Sapresh Devidas
Professional (Advocate); B Sardessai and Associates
H.No- 370/2, Powerhouse, Cuncolim, Salcete; Goa
Email: devidas.sapresh@gmail.com

In 2020, the World Health Organization (WHO) declared the outbreak of a new corona virus disease, COVID-19, to be a public health emergency of international concern. The appearance of COVID-19 has shown that when we destroy biodiversity we destroy the system that supports human life. The more bio diverse an ecosystem is, the more difficult it is for a pathogen to spread rapidly or dominate. Loss of biodiversity provides an opportunity for pathogens to pass between animals and people. We must learn and adapt faster than ever, and the COVID 19 virus has lessons that apply to global crises of biodiversity loss. For this reason, our best vaccine for the future is to protect nature and biodiversity. It is no longer just a matter of ecology but of being aware that if we want to reduce the occurrence of pandemics we must have a healthy nature. The legal status of wildlife was not recognized in a single day but took many years of history to get world wide support through politically, socially and scientifically. It is necessary to know Current scenario about wildlife protection and conservation at national and international level. Wildlife and habitat conservation has become increasingly important in the 21st century. Destruction and loss of habitat, illegal use of wildlife, overexploitation of resources, and lack of conservation awareness, have a negative impact on biodiversity and ecosystems. To meet collective obligations towards biodiversity conservation and monitoring, it is essential that the world's governments and non-governmental organisations as well as the research community tap all possible sources of data and information, including new, fast-growing sources such as Citizen Science (CS), in which volunteers participate in some or all aspects of environmental assessments. They use the Essential Biodiversity Variable frame-work to describe the range of biodiversity data needed to track progress towards global biodiversity targets, and assess strengths and gaps in geographical and taxonomic coverage. Citizen Sciencedata particularly provide large scale data on species distribution and population abundance, species traits such as phenology, and ecosystem function variables such as primary and secondary productivity. Most Citizen Science schemes are found in Europe, North America, South Africa, India, and Australia. Successful Citizen Science programs would facilitate the scaling up of current efforts, strengths in data coverage can be better exploited, and the strategies that could maximise the synergies for monitoring biodiversity. This paper explores the origin of Citizen Science and its evolution over time as well as it addresses the current scenario and future challenges and opportunities for Citizen Science.

Keywords: *Citizen Science, biodiversity, conservation, wildlife protection.*

Abstract No. 47

NLINE EDUCATION AS A MEANS TO TRANSFORM EDUCATION SYSTEM

Neeta Sahu
Assistant professor
S.S. Khanna Girls Degree College
Email: sahuneeta_80@rediffmail.com

The concept of sustainable development refers to the capability of the human being to fulfill its present need without disturbing the needs of future generations. This concept was defined in 1987 by the Brundtland commission as 'development that meets the need of the present without compromising the ability of future generations to meet their own needs' (Brundtland, 1987). In the direction of efforts of achieving sustainable development in 2015, United Nations along with all its Member States has set 17 Sustainable Development Goals (SDGs) and 169 targets. These goals are integrated and indivisible and will be helpful in achieving the three dimensions of sustainable development which are economical, social and environmental. These are also known as agenda 2030, which are supposed to be achieved in next fifteen years. Among these 17 goals, goal 4 is concerned with education. SDG 4 of education aims at ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. SDG 4 has 10 targets. It includes free primary and secondary education, equal access to quality pre-primary education, equal access to affordable technical, vocational and higher education, skill education, elimination of disparities in education, universal literacy and numeracy, education for sustainable development and global citizenship, build and upgrade education facilities, expansion of higher education scholarships for developing countries and supply of qualified teachers in developing countries.

Unprecedented outbreak of Pandemic covid-19 has affected all facets of human life and has led us to such a situation which has not been faced earlier. It has put a break to the efforts being made for growth and development of the human being. In this scenario education system also needs to be transformed to achieve the sustainable development Goals (SDG) 4. It can be done with the inclusion of education technology in teaching and learning process. Until we don't make advancement in education and make it accessible to each and everyone till then we cannot imagine fulfilling these goals by 2030. Whole education system has been affected badly. Face to face traditional teaching is being replaced by online teaching. It has become the need of the hour. In order to maintain social distancing also it seems to be a feasible solution to continue the teaching-learning process with the inclusion of technology. This new mode of teaching and learning gives us an opportunity to continue our efforts for achieving SDG 4 of education. Online or virtual classes are preferable because it make the access to more and more people at any corner of the world. It is comparatively cheaper. In the present unprecedented scenario following measures can be taken to speed up the education system and make it as an active agent to achieve the SDG 4 –

- Introduction of new short term courses
- Skill oriented courses

- Vocational courses
- Free online courses
- Certificate based courses
- Scholarship programs for young and disadvantaged group
- Online technology training for teachers to make them more efficient

Thus, it can be concluded that technology and online education has enormous potentials to act as a driver for realizing SDG 4 and all other SDGs.

Abstract No. 48

TRENDS SHAPING EDUCATION: AMIDST COVID-19

Dr. Rashmi Singh
Assistant Professor
Department of Education, S. S. Khanna Girls' Degree College,
(A Constituent College of the University of Allahabad)
rashmisingh23.lucknow@gmail.com

COVID-19 is a global pandemic. We are living amidst what is potentially one of the greatest threats in our lifetime to global education, a gigantic educational crisis. As of this pandemic more than 150 countries of the world have experienced total or partial lockdown, in which educational institutions are first ones to be closed to protects our kids and youths from this deadly and highly contagious disease. Thus COVID 19 pandemic has disrupted education around the world. As the first shock passes, planning is taking place on two timescales: the short-term challenges in the return to school, and the challenges over the next 18-24 months as systems work to build resilience and adaptability for the future. If we talk about the challenges to make this lockdown period fruitful and productive for learners, it is altogether different experience for digital haves and digital haves not. Developed countries are already using blended learning or totally online courses but in country like India, where we are still talking about the uninterrupted power supply, it is really a big challenge to use online platforms to connect with their stakeholders. But we all are knowing that, necessity is the mother of invention, and this fact has been proven once again by educational institutions, teachers and every stake-holders. We can say that from pre-primary to higher education, each teacher has transformed herself to prove his/her mettle in this challenging time. The present paper would deal with challenges as well as opportunities in the educational sector, which finally make the new trend for education due to this pandemic to be in sync with the new normal.

Key words: *COVID-19, Global pandemic, lockdown, contagious, resilience, blended learning.*

Abstract No. 49

A PLACE OF SHELTER – WELL BEING, DEVELOPMENT AND IMPROVEMENT

[1]Angela Sarkar & [2]Amit Rupela
[1]MPhil, School of Economics, University of Hyderabad
[2]Budget Consultant, Department of Finance, Government of Gujarat.
Email: angelasarkar9@gmail.com

Housing has always been among the important policy agendas of the government due its interlinkages to 86 more ancillary industries, considerable social impact by facilizing a level of safety, security, social recognition, status and inclusion of large number of people in the growth of the country by alleviating poverty and improving human development index. Considering Macroeconomic policies, Housing Prices has been considered as a greater weightage in CPI. Measuring the trends and variation of prices of houses serves an indicative tool both at a micro and macro level. This paper tries to evaluate and analyse a relation between House Price Index (HPI) with sales, real GDP, policy interest rates and affordability index. The study is an exploratory study to create a socio-economic model of housing in the context of achieving objectives with econometric modelling of forecasting. The study finds the significant positive relation with sales, real GDP and negative relation of affordability index and policy interest rates. Housing being an essential need, the poor unaffordability of houses in cities was a major concern for poor people. The Covid 19, was a real reflection of this prolonged poor unaffordability and access of housing to the EWS and LIG group of people. This study emphasises on this and recommends policies for future inclusivity of these poor migrant workers, EWS and LIG people post Covid-19. This study can be further extended to understand how an improved Residential Price Index can serve as a better macro-economic, financial and social indicator.

KEY WORDS*: Housing, Sustainable Housing Prices, Inclusionary Housing, Housing Indices. Covid-19.*

Abstract No. 50

NEW EDUCATION ECOSYSTEM POST COVID19: SUSTAINABLE EDUCATION FOR A ROBUST AND RESILIENT SOCIETY

Pranjal Kuli
Department of Political Science
University of Delhi
Email- pranjal.kmc715@gmail.com

The Covid19 pandemic has disrupted our traditional educational system which is based on direct face to face interaction and which requires one to be physically present in the classroom. Social distancing has become the new norm to limit the spread of the virus and because of which our traditional education system has come to a standstill. The novel coronavirus is showing no signs of slowing down and experts have argued that the virus is here to stay and we will have to coexist with the virus. We will have to restructure all our systems including the education system which is heavily hit by the novel coronavirus. Quality education is one of the Sustainable Development Goals and the pandemic has created a roadblock and erosion of all our efforts in attainment of this goal. Online learning although promising is not a full-fledged solution as developing countries lack infrastructure, digital literacy, internet penetration and many other challenges. This article seeks to deliberate on the impact of the pandemic on education and to rethink our education model and explore and create a new education ecosystem for a robust and resilient society.

Abstract No. 51

THE CHANGING VIEW OF SUSTAINABILITY AMIDST THE COVID-19 PANDEMIC

Rachana Anand Gaur
Associate Professor
Department of Hindi
Sadanlal Sanwaldas Khanna Mahila Mahavidayalay, Allahabad

The global corona virus pandemic, which has already caused unimaginable devastation and hardship, has brought our way of life to an almost complete halt. The outbreak will have profound and lasting economic and social consequences in every corner of the globe. Due to the highly contagious nature of the disease, people have been left with no option but to stay at home and take multiple precautions at a personal level. From disinfecting every single material brought for daily consumption to avoiding social interactions, the situation has been quite stressful. We are facing an extraordinarily tough situation that has compelled us to think how to manage nature and its resources differently to avoid pandemics like COVID 19. At a time like this, it is imperative to revisit the established principle of sustainability.

Abstract No. 52

TRANSFORMATION IN EDUCATIONAL TRENDS FOR THE POST COVID 19 ERA

Roopadevi .V.
Assistant Professor
Govt First Grade College, Yelahanka Bangalore-560064
Bangalore Central University
Email: roopatwinkel@gmail.com

The current health crisis that we are experiencing due to covid-19 and the economic, social crisis on their way are putting everything in a new, unexpected and complex context. The world will not be the same after this crisis and even the education system. The education system has to operate in a very different economic, social and political climate. Education is the process of receiving or giving systematic instructions, especially at a school or university. Now it's a time for redefining the meaning of education because of Covid-19. This corona virus related disruption has made the educators to rethink about the sector. Technology has entered and will continue to play a key role in education in future generations. The generation now is in such a way that everything will be expressed through instant communication and feedback which has effected through apps like instant messenger, snapchat and whatsapp. The educators across the world are experiencing new possibilities to do things differently and with greater flexibility. The chalk and talk style of education have to be complemented with online teaching. The evolution of education after this crisis is unpredictable new challenge and also the new factor.

The present study has been conducted with the help of secondary sources of data. The results showed that there is drastic transformation in education after covid-19. Implications for future research and practices are discussed.

Key Words: *Education, transformation, Technology, covid-19*

Abstract No. 53

DECODING LEARNING WITH COVID-19: OPPORTUNITIES, CHALLENGES AND THE ROAD AHEAD

Sayan Dey
Assistant Professor
Chaiduar College affiliated to Gauhati University, ASSAM
Email: sayan03oct@gmail.com

2020 will go down in History as the timeline when humanity, not knowing what they are up against, has been locked up in personal coops, eyes shut and heads in the sand, waiting for the time when the danger will go away. COVID-19 has affected 68.5 % of enrolled learners amounting to 1,198,530,172 individuals across 153 countries due to countrywide lockdowns globally (UNESCO, 2020). As per AIHSE, India is unparallel in terms of size with 1.4 Million schools, 39931 colleges, 993 universities and 10275 stand-alone institutions. COVID-19 has severely disrupted teaching learning activities as due to ensuing lockdown and shutdown of the educational institutions. India's education system, mostly classroom oriented and offline, has struggled to make a swift shift towards online classes and e-learning. This paper is a theoretical attempt using secondary data to analyse the impact of COVID-19 on Indian education system, policies employed by government to resolve the bottleneck situation regarding digitised learning and recommendations for the road ahead. The study reveals that a transition in the entire teaching learning process is the only way forward.

Keywords: *COVID-19, Indian Education, Higher Education, Online Learning, Online Education*

Abstract No. 54

AN APPRAISAL OF ENVIRONMENTAL LAW: BIRTH OF THE RIGHT TO ENVIRONMENT IN INDIA

Deevanshu Shrivastava
Assistant Professor
Jagran School of Public Policy & International Affairs
Jagran Lakeity University, Bhopal
Email: deevanshu.shrivastava@jlu.edu.in

Environment plays a pivotal role in human life as well as in the development of society. With growing technological advancement and industrialization, the purity of the environment has been threatened to an appalling extent. The need to protect and improve the environment is so compelling for the peaceful survival of mankind and other life forms on planet Earth that right to environment has emerged as a human right.

This paper commences with the diverse ingredients of Indian environmental jurisprudence. A highlight of international efforts in combating environment related problems is also made. Ultimately, the author throws light on the Indian experience of environmental law and its resultant tool of the human right to live in a clean and healthy environment.

Over the last two decades, the Indian judiciary has fostered an extensive and innovative approach to environmental rights in the country. Complex matters of environmental management have been resolved and consequently a series of innovative procedural remedies have evolved to accompany this new substantive right. The new environmental right is therefore championed as a legal gateway to speedy and inexpensive legal remedy.

The notional expansion of right to life was recognized even in the absence of a specific reference to direct violations of the fundamental right. Placed in a nutshell, the human right culture has percolated down to Indian human right regime within a short period of time. An interdisciplinary approach to environmental protection may be another reason for the operation of the right to healthy environment. This has been undertaken through international environmental treaties & conventions, national legislative measures and in judicial responses. On undertaking a comprehensive study of environmental law, it can be found that the Indian scenario is replete with examples of preserving the environment from degradation.

Abstract No. 55

JUDICIAL CONTRIBUTION IN ENHANCING ENVIRONMENTAL JURISPRUDENCE IN INDIA: A BRIEF UNDERSTANDING

Gaurav Gulati
High Court of Judicature at Allahabad, Prayagraj
Email: gggauravgulati28@gmail.com

It is the dream of every person to have healthy environment because environment is the most important factor to support not only human life but also life of many species. But now a days in the name of modernization, urbanization, economic development etc man himself creating a harmful environment around him. For this no country can claim an exception either it is a developed country or developing country can claim an exception. So, India is also one among these. Here people, organizations as well as government all are playing a vital role. Because of greedy towards quick development without having consciousness about environment and failure of the state agencies in making and implementation effective enforcing environmental laws has resulted in degrading of the environment. Moreover, we are witnessing ecological imbalance, traumatic subversion of the eco-system, global warming, cyclones, earthquake, tsunami, floods, radiation problems and pollution in atmosphere in case of air, water, land and what not.

It is the known fact that healthy environment is basic need of everyone. So, obviously everyone should feel it as their duty to protect environment. Protection of environment is need not only for present generation but also for enjoyment and continuation of life by our next generations. In fact the concept of environment protection is not a new concept in India it has been prevalence from times immemorial in our country in the name of customs, religious rites etc. in one word during ancient period man and environment were said t be inseparable.

During medieval and modern period science and technologies have given place for too many environmental problems for which state started to make laws to prevent these problems. In this regard there are several specific as well as general laws including constitution of India specifically provided by State which require the state and the citizens to protect environment.

Abstract No. 56

AN ANALYSIS OF ROLE OF MEDIA ON FAKE NEWS AND MISINFORMATION VIS-V'-VIS COVID-19 PANDEMIC AND CHALLENGES FOR E-COURTS

Rahul Tiwari
Delhi High Court
Email: tiwari4431@gmail.com

This paper deals with the concept of role of media during emergency situation such as natural disaster and pandemic like covid-19 and the lockdown which followed. Entire country witnessed a complete lockdown for a considerable amount of time in early-2020. The 2019 corona virus outbreak (COVID-19) has established a worldwide medical problem which has had a profound impact on the way we interpret our globe but also our everyday routines. The outbreak of corona virus disease 2019 (COVID-19) has created a global health crisis that has had a deep impact on the way we perceive our world and our everyday lives. The media at the beginning of the pandemic played its role well, regarding making people aware about the virus which spread like a wild fire and by mid-2020 the total affected case reached 1 million. This paper deals with the concept of misreporting by the media, fake news on social media which caused huge panic and also led to mass migration of the laborer, in the various part of the country, Delhi being worst affected. The Supreme Court of India too in its ordered observed that it was the fake news on social media and on other digital platform which created panic and led to mass migration of the laborer from the national capital. News media has long become regarded as important factors influencing how we and we view the environment. This acceptance has been associated with an increasing amount of research which behaves similarly the footprints of technology change and the youth culture in an effort to identify significant effects of mass media about how we interpret our self as people and residents. The second half the paper will deal with the social, political, economical, legal and technological aspects of the victims which were affected by the fake news, Media trial and the misinformation prorogated by the mainstream media. The researcher through this paper questions the credibility of the news reporting and the social media platforms in the contemporary era, and exposes the loopholes in the laws, and the administrative Irregularities which gives space to the media to use the tools of misinformation, fake news and media trial in the times of pandemic, to propagate their ideology and hide the failure of their political master, instead of doing unbiased reporting to spread news about the actual event taking place and how things can be managed adequately with the available resources in the time of covid-19 pandemic. The unrestricted autonomy that has made social media sites impervious to misappropriation, misinformation and, therefore, fake news. Social networking has become a huge player in shaping national discourse in a representative democracy system in recent decades. At the conclusion this article looks into how the fake news and prorogation of misinformation can be controlled with the help of judiciary and legislatures and will also provide recommendations for the society as well as the government.

Keywords – *Fake News, Misinformation, Social media, pandemic, covid-19, judiciary, technology*

Abstract No. 57

INDIA'S PRAGMATIC MANOEUVRE IN COVID-19 CRISIS

Shantanu Anand
Dr. Ram Manohar Lohiya National Law University, Lucknow
Email: Anandshantanu71@Gmail.Com

In 2015 the SDGs were adopted by all UN Member States in which 17 integrated SDG were there emphasizing upon environmental, health, dispensation of justice which were aimed at transforming challenges into opportunities. The Covid-19 pandemic, i.e. force major (unforeseeable circumstance), has halted the economies and shackled the web-chains of interdependent countries thereby frustrating contracts and agreements: the result is that all the goals which were brought near have been kicked off far away by this pandemic. In the race of economies to increase the Ease of doing business, GPD per capita etc. the intense industrialization has posed a severe threat to the environment and has crumpled the environment.

It is not only the process of industrialization but also the, illegal, black market trade and income inequality has forced marginalized to do what is perhaps more detrimental to society for example illegal trade of ornaments made of elephant's tooth. Poverty, lack of resources, less international coverage and remoteness of a place has made the denizens deprived of evolution which has made these people susceptible to innocent excessive harm which they cause to the environment. Somewhere poor leadership is responsible and somewhere lobbying and corruption is fueling the unwanted. Therefore, this paper will be dealing as to how necessitated it is to change the present state into a new norm and what role India has to play.

Therefore, to tackle this harm done by the pandemic, in India itself the state under has enacted various regulations to curb the spread Covid-19 under the Epidemic Disease Act, 1897. To bring the nation back of tracks various schemes and initiatives has been started by the state to prevent the rising unemployment and poverty. Keeping in mind the SDG goals this paper will be dealing with the suggestions as to how the confluence between economic development and environment will go on. The legislations, agreements and international conferences, in which India is signatory to, like Environmental Protection Act, 1986, National Green Tribunal Act, 2010, United Nations Convention of the Human Environment on Stockholm Conference, 1972, Paris Agreement, 2020. Along with it the cases like MC Mehta vs Union of India series, Subash Kumar vs State of Bihar, Vellore Citizen's Welfare Forum vs Union of India, Sterlite Industries Ltd vs Tamil Nadu Pollution control board, Bhopal Gas Peedith Mahila Udyog Sangathan vs Union of India will streamline the legal edicts on environment thereby balancing economic development and nature. Furthermore, this paper will be dealing with the catalytic effect of media on the coverage of issues like of climate change. Furthermore, this paper will be dealing as to how necessary it has become for the courts to overhaul the tradition system of litigation and the need of e-Courts.

Abstract No. 58

ACCESS TO JUSTICE VIS-À-VIS SUSTAINABLE DEVELOPMENT GOALS AMIDST COVID19

Subodhika Sharma
Assistant Professor; S.S. Khanna Girls' Degree College, Prayagraj
Email: subodhikasharma@gmail.com

The 2030 Agenda for Sustainable Development is a plan of action for people, planet and prosperity, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries, developed and developing, in a universal partnership. The 17 Sustainable Development Goals and 169 targets re integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental. Goal 16: Peace, Justice and Strong Institutions talks about 'Access to justice for all, and building effective, accountable institutions at all levels'. More specifically, Goal 16.3 talks about promoting the rule of law at the national and international levels and ensuring equal access to justice for all.

The COVID-19 pandemic has disrupted the justice delivery system like never before. In this time of crisis, the UN Secretary General has urged governments to be transparent, responsive and accountable in their COVID-19 response and ensure that any emergency measures are legal, proportionate, necessary and non-discriminatory. The Judicial System is an inalienable part of all modern democracies and as with an unforeseen global crisis, the role of the legal system is more necessary now than ever. It is a worrying thought that while there has been a very gradual shift across the world to incorporate technology into various fields, the entire process of justice delivery has continued to remain largely static, and now overnight, courts have been forced to adjust to the increased reliance on technology and play catch up.

In India, during the nationwide lockdown imposed to contain the spread of COVID-19, the Supreme Court has attempted to make a quick transition and conduct as many hearings as possible and it issued a detailed standard operating procedure in April to be followed to regulate and simplify daily procedures of the Court such as mentioning, e-filing, and the hearings through Video Conferencing. The SC has also circulated Model rules for the conduct of Virtual Hearings among the High Courts that have now started hearing an increased number of cases. However, the sufficiency and the sustainability of such measures is open to examination. For instance, it is not enough to simply take the entire existing legal process online; instead, more innovative and modified practices have to be implemented. The focus has to be on transformation and subsequent metamorphosis of the justice system in order to make access to justice for all a functional reality.

Abstract No. 59

JUSTICE THROUGH E-COURTS: AMIDST COVID-19

Yogita Jain
Assistant Professor
Department of Law, SGT University, Gurugram, Haryana
Email: advyogitajain04@gmail.com

The UN has adopted sustainable goals in 2015 for upcoming 15 years, but this sudden outbreak of COVID-19 pandemic 19 has led us to rethink about sustenance of sustainable development. Due to this pandemic situation, the society is facing new sustainable challenges. So, there is a need to rethink and discuss about issues relating to health, justice delievery etc to seek a solution to overcome the present situation and also make roadmap for future the future course of action. So, the researcher tries to explore the role of law and its effectiveness during this pandemic and after this pandemic gets over in sustenance of sustainable development. The researcher tries to lay emphasis on dispensation of justice through e-courts and further analyzing the effects of adoption of these methods of providing justice in post COVID era as well. He tries to answer that to what extent dispensing justice through e-courts serves the purpose in reality. The researcher observes and analyses this situation as an opportunity of transformation of our society while overcoming the new challenges faced due to this pandemic. Further he tries to analyse how we can be prepared for any such future outbreak of similar pandemic situation keeping in mind that the justice is dispensed on priority basis in such situations. Another aspect being covered by the researcher is that how this pandemic situation is an opportunity for us to achieve our sustainable goals and sustainable development subsists.

Abstract No. 60

SUSTAINABLE DEVELOPMENT AND EDUCATION

Harish Kumar Singh
Assistant professor
Department of Education
S. S. Khanna Girls Degree College
Email: harishparihar29@gmail.com

Education for Sustainable Development (ESD) was a United Nations program that defined as education that encourages changes in knowledge, skills, values and attitudes to enable a more sustainable and just society for all. ESD aims to empower and equip current and future generations to meet their needs using a balanced and integrated approach to the economic, social and environmental dimensions of sustainable development. ESD is the term most used internationally and by the United Nations. Agenda 21 was the first international document that identified education as an essential tool for achieving sustainable development and highlighted areas of action for education.

CONCEPT AND ORIGIN

One definition of Education for Sustainable Development is an "interdisciplinary learning methodology covering the integrated social, economic, and environmental aspects of formal and informal curriculum". The Brundtland Commission defined sustainable development as meeting the needs of the present generation without putting at risk the capacity of generations to come in meeting their own requirements. This Agency used to be the World Commission on Environment and Development created in 1983.The idea of sustainable development originated from the United Nations Conference on Human Environment in Stockholm (Sweden 1972).There were two more global activities since then. These were the United Nations World Commission on Environment and Development 1987 Our Common Future Report and the United Nations Conference on Environment and Development 1992 (Rio Earth Summit).

Abstract No. 61

THE GOALS OF SUSTAINABLE DEVELOPMENT IN THE AFFECTED AREAS: A RELATIONS FROM THE NORMAL TO THE NEW-NORMAL SCENARIO

Ananda Majumdar
University of Alberta; Edmonton, Alberta, Canada
Email: anandamajumdar2004@yahoo.co.uk

The Concept of Environmental Sustainability is the maintenance of natural capital and is connected to both social and economic sustainability. Human needs and ecosystems are connected by meeting human needs without compromising the health of the ecosystem, called Ecological Sustainability. The time has come to implement a goal on more climate-resilient, sustainable, and build on lessons learned from the policies of the Global New Green Deal. From an economic sustainability standpoint, economic activity should not burden future generations inappropriately. The allocation of the economists will be on environmental assets as a part of the value of natural and manmade capital, and the preservation of those assets will become a function of overall financial analysis. Economic sustainability should also analyze to minimize the social costs of meeting the standard for protecting environmental assets instead of determining those standards should be. The economically sustainable goal of responsible consumption, such as online working or locally sourced production is important for the broader discussion of the circular economy. From the Social Sustainability standpoint, [i]scholar McKenzie described it a positive condition and process within the community through various features such as; equity of access of key services, equity between generations, political participation of citizens in local levels, a sense of community ownership, a campaign of awareness of social sustainability from one to another, a mechanism for a community for the fulfillment of own needs, and the political advocacy to meet the needs which can be met by community action. A strong education system broadens access to opportunities, improves health, and improve the resilience of communities. Education provided skilled people need to thrive in the new sustainable economy working in areas such as forest rehabilitation, sound management of healthy ecosystems etc. Education brings a fundamental shift in how we think, act, and discharge our duties towards one another. Learning Labs for sustainable development is an important educational sustainable goal to adapt and help mitigate the

consequences of climate change (climate change educational goal by the promotion of UNESCO and UNICEF). Promoting well-being at all ages is essential to sustainable development. Decreasing global maternal mortality, ending preventable deaths of newborns and children under 5 years of age, end the epidemic of AIDS, malaria, reducing by one-third premature mortality, strengthening the prevention and treatment of abuse, strengthening the capacity for early warning risk reduction and management of national and global health risk in developing countries are sustainable features of health sustainability standpoint. The sustainable goal of renewed and inclusive multilateralism for the protection of communities from within nations who are affected by the vulnerability and inequalities due to the current pandemic. The objective of the article is to focus on and implementing sustainable goals of areas that are affected. The outcome of the article is to an analysis of the solution of sources of sustainability in the areas that are affected. The methodology of the analysis is through a qualitative approach by reading articles. Feature question is, are those goals enough for human consciousness to implement socio-economic-demographic images in the post-COVID-19 world?

Keywords: Blue Water Investment, Carbon-Nitrogen dioxide Emissions, Oikos, Climate Action, COVID-19, Co-living, Ecosystem, Eco-museum

Abstract No. 62

COVID-19 AND EDUCATION: CHANGING PARADIGM OF EDUCATION IN INDIA

[1]Aastha & [2]Dharminder Singh

[1] Assistant Professor; Department of Commerce; Panjab University Constituent College, Mohkam Khan Wala, Ferozepur
2 Assistant Professor; Department of Economics; Panjab University Constituent College, Mohkam Khan Wala, Ferozepur.
Email: aasthadixit15@yahoo.com

Covid-19 has disrupted every aspect of our life and education is no exception. Virtual classrooms are taking place of physical classrooms as it has become difficult to teach in physical settings of classrooms in the times of ongoing pandemic. Although there exists a digital divide and we have to address the issue of this wide gap yet virtual classrooms are going to be the new normal as covid-19 has fast tracked the growth of the online education space. Many online platforms such as Zoom, Google meet; WebEx, Microsoft team etc. are available to turn the brick classrooms into click classrooms. According to a report from Schoolguru Eduserve, the online higher education enrolment is about to reach 63.36 Million by 2022. It has been observed that during the lockdown period faculty as well as students are involved with different modes of online teaching and learning. At first, many faculties have resisted adopting online education but later on they have changed their mindset towards the virtual classrooms and adoption of new techniques of teaching. This study is an attempt to understand the Paradigm shift in education due to covid-19. For this purpose various newspaper articles, reports, websites etc. have been used to make the study effective and useful. The education ministry should come up with new guidelines to promote the "click classrooms" even after the pandemic is over.

Keywords: Covid-19; Technology; Online Teaching; Teaching Fraternity; Students

Abstract No. 63

LEGAL PERSPECTIVE AS TO COVID -19

K. Sangeetha
Assistant Professor
Department of International Law, The Tamil Nadu Dr. Ambedkar Law University, Chennai

Quarantine is a State of Isolation in which people who are exposed to an Infectious Disease are placed for a fixed time, in order to curb the further spread of such disease. Coronavirus is highly contagious, that is why incoming travellers from corona hit Countries and people coming in contact with Corona infected persons are being kept under observation to ascertain their Medical Status. However, India have had several instances of people avoiding health screening at airports, fleeing from quarantine, hiding their travel history and not following the rules prescribed for self-isolation by the concerned authorities. This is unfortunate as the irresponsible act of these people has jeopardized the safety of their family, friends and fellow countrymen. People are largely unaware of the existing Laws under which they can be prosecuted for such actions that are detrimental to the health and safety of others.

In our Country, disobedience to quarantine rule is punishable under Section 271 of the Indian Penal Code, 1860 with imprisonment of either description for a term which may extend to six months, or with fine, or with both. Failure to take requisite precautions despite being aware of the possibility of the spread of such infection or disease is punishable under Sections 269 and 270 of the IPC. Under Section 269, whoever unlawfully or negligently does any act which is, and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life, shall be punished with imprisonment of either description up to six months or fine or with both fine and imprisonment. Under Section 270, Whoever malignantly does any act which is, and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life, shall be punished with imprisonment of either description for a term which may extend to two years, or with fine, or with both. Malignancy is characterized in diseases that are highly virulent, infectious and life-threatening. Disobeying the norms prescribed for social distancing, coughing or sneezing without covering the nose and mouth, not wearing masks in public, disregarding norms for social isolation, loitering on the streets in groups, socializing in disregard of the prescribed regulations, etc. are all punishable offences under Section 270.

KEY WORDS: *Quarantine, Infectious Disease, Health and Safety, Indian Laws*

Abstract No. 64

EDUCATION FOR SUSTAINABLE DEVELOPMENT A SUSTAINABLE EDUCATION FOR INDIA

Harsh Kumar
Research Scholar
Department of Education, Shree Satya Sai Education College Karaiwala Muktsar Punjab
drvardhanh1557@gmail.com

This paper examines the United Nation program that encourages sustainable development and education that provides changes in learning, skills, knowledge and values to fulfill Sustainable Development Goals (SDG). The study lay emphasis on both the terms 'Education for Sustainable Development' (ESD) and Sustainability in Education. The study also provides conceptual model of sustainable education for the Indian school education system. ESD aims to help the present and future generations to balance the economic, social, and environmental factors to meet their needs without damaging future resources and to cope with the sustainable development challenges. ESD highlighted the sustainable education for achieving the goals for sustainable development.

Keywords: *Education for sustainable development (ESD); Sustainable Development Goals; UNESCO SDGs for 2030; Sustainable Education, Conceptual Model; Indian School Education Status.*

Abstract No. 65

SWAYAM: A WAY TO SUSTAINABILITY IN INDIAN EDUCATION SECTOR

N. Shradha Varma
Assistant Professor
Maitreyi College, Delhi University, New Delhi

In these times of COVID-19 Pandemic, the idea of sustainability illuminates itself as a very prominent focus of the policymakers in every aspect. In this regard, the sole purpose stands out to be 'creating virtual world'. With the Indian government aiming at digitizing India with its 'Digital India' initiative which has a motive of transforming India into a digitally empowered society, Ministry of Human Resource Development, Government of India had embarked on a major initiative called "Study Webs of Active Learning for Young Aspiring Minds" (SWAYAM) to provide an integrated domain of online courses with the objective of benefiting a large scale of students who could not be reached by the conventional education system. And during this COVID-19 Pandemic, this step has proven to be the 'blessing'. There is no denial to the fact that this portal provides independency to every learner to make productive decisions with respect to education, as it gives liberty to choose from variety of courses as per one's needs irrespective of the challenging times like the present one and overcoming the geographical barriers. It also provides an opportunity for all the experts and resource persons to pool in their wisdom and knowledge for the benefit of every learner from different territorial regions. Thus, this digitalized portal doesn't allow the hindrance created by the pandemic to stop the learning process, rather smoothens out the aim of educating the masses.

Abstract No. 66

EDUCATIONAL SUSTAINABILITY WITH ICT

S. Aasha[1] & B. Farhan [2]
[1]Research Scholar, Aiman College of Arts and Science for Women, Trichy
Aashaaiman@Gmail.Com
[2]Research Scholar, Aiman College of Arts and Science for Women, Trichy
Farhaneducate@Gmail.Com

Over the centuries, there has been remarkable and mind-blowing improvement in innovations by man. This includes a rapid improvement in information and communication technology (ICT); which provides unique and inventive opportunity for improvements and changes in teaching and learning. The rapid growth in ICT has brought remarkable changes in the twenty-first century, as well as affected the demands of modern societies. Within the start ICT did not influence many, now within the 21st century none is without the influence of ICT. The familiar terminology that's widely getting utilized in every being's life is "Smart technology". Smartphone's, tablets, gadgets, smart televisions, I pad, Tab etc., are the products of smart technology that have made human life smarter, easier accessible, stress free and easy going. Smart technology has not only enhanced the way of living but also became an integrated a neighborhood of everyone's life. Information technology has been influencing our lives within the recent years within the fields of education, sports, shopping healthcare, and business. Going a further mile, Information and communication technology in schools features a serious impact with the beginning of Smart Classrooms which reinforces student learning and better teaching techniques.

Keywords: *ICT, Media Technology, Innovation, Learning and Teaching*

Abstract No. 67

THE CHALLENGES IN ONLINE EDUCATION AT SCHOOL LEVEL

Y.S.Reddy
Department of Physics
Chaitanya Bharathi Institute of technology (A), Gandipet, Hyderabad - 500 075
E-mail: ysreddy.ou@gmail.com

The education sector has been worst hit due to Covid-19 pandemic and this impact is going to last for a long time. The impact of Covid-19 on education sector is a variable function which varies with level of education, place of study, financial status of parents, etc. It is feared that it is school level education that bears a lot of turbulence due to current situation. There has been significant inequality among the students at school level who are forced to go for online education. The main factors that contribute to this electronic inequality or digital divide among the school students are: the quality of electron gadgets, the quality of network, the digital literacy of the students and their parents. The sudden and unexpected financial burden on the parents cause their kids pull back from the ongoing online education. One can't expect the same feedback or results from the students who attend online classes using laptop/desktop and the students who have just a mobile phone. Furthermore, in many semi-urban and rural areas, the affordability of the parents for a mobile phone for their children for online classes is a remote possibility. Hence, the continuing pandemic situation may result in the variation in the quality of education that the children receive; even they are studying in the same school. Therefore, a strategic plan is needed to address these issues so that the digital divide among the students can be minimized.

Abstract No. 68

DEMONSTRATING BITS OF KNOWLEDGE INTO THE COVID-19 PANDEMIC

Shubham
Research Scholar
Dyal Singh College, Karnal (132001), Haryana, India
Email: bhattishubham25@gmail.com

Coronavirus sickness 2019 (COVID-19) is a recently risen irresistible malady brought about by the serious intense respiratory condition coronavirus-2 (SARS-CoV-2) that was pronounced a pandemic by the World Health Organization on eleventh March, 2020. Reaction to this pandemic has required broad joint effort over established researchers trying to contain the infection and breaking point further transmission. Numerical displaying has been at the front line of these reaction endeavors by: (1) giving introductory evaluations of the SARS-CoV-2 generation rate, R0 (of around 2-3); (2) refreshing these appraisals following intercession execution (with essentially decreased, regularly sub-basic, transmission rates); (3) surveying the potential for worldwide spread through forecasts of the exportation of COVID-19 preceding critical case numbers had been accounted for universally; and (4) measuring the seriousness and weight of COVID-19, demonstrating that the genuine disease rates are significant degrees more noteworthy than gauges dependent on affirmed case checks alone. In this survey, we feature the basic pretended by numerical demonstrating to comprehend COVID-19 hitherto, the difficulties presented by information accessibility and vulnerability, and the proceeding with utility of displaying based ways to deal with educate the general wellbeing reaction. †Unless in any case expressed, all organized mistake edges relate to the 95% tenable stretch (CrI) for detailed evaluations.

Keywords: *Mathematical Displaying, Covid-19 Pandemic, Review, Emerging Irresistible Maladies and So Forth.*

Abstract No. 69

IMPACT OF COVID-19 ON INDIAN ATMOSPHERE: CASE STUDY LUCKNOW

Mubashra Afroz, Mahesh Kumar Gupta, P.K. Tandon
Department of Chemistry, University of Allahabad, Prayagraj
mubsharaafroz@gmail.com

The novel coronavirus (SARS-CoV2) has hampered all developmental activities around the world and affected all aspects of life in an adverse manner. However, it emerged as a blessing for nature and its significant impact has been observed on air quality. This study reports a comparison of air quality before and after lockdown (from January to June 2020) in Lucknow city of Uttar Pradesh (India) by calculating Central Pollution Control Board (CPCB) online portal air quality data for 24 h daily average concentration of five pollutants ($PM_{2.5}$, NO_2, SO_2, CO and ozone). Statistical analysis of one-way ANOVA was performed which also indicates positive effect of lockdown on pollutants concentration. Besides, AURA satellite OMI spectrophotometer images of Indian atmosphere for NO_2 and SO_2 pollutants also indicate decrease in pollutants concentration.

Keywords: Coronavirus, Lockdown, CPCB, ANOVA

Abstract No. 70

WELL-BEING IMPROVEMENT OF CHRONIC LOW BACK PAIN PATIENTS TREATED WITH BALNEOTHERAPY IN SOUTH-EASTERN ALGERIA.

Abdelghani MILIANI[1], Hocine CHERID[2], Mohammed RACHEDI[3].
[1]Assistant Professor, PMR Department, Faculty Of Medicine, University KM Of Ouargla, ALGERIA.
[2]Professor of PMR, EHS Azur Plage, Algiers, ALGERIA.
[3] Professor Of PMR, Faculty Of Medicine, University Of Algiers, ALGERIA

Introduction: The region of Ouargla in the south-east of Algeria has many thermal springs that are still largely untapped. The aim of this pilot study is to assess the contribution of balneotherapy to well-being and functional restoration in chronic low back pain patients.

Method: Participants were recruited from subjects treated for chronic low back pain at the balneotherapy and functional rehabilitation center in Ouargla, Algeria. The sample was divided into two groups for comparative purposes: an intervention group (A) receiving physical therapy combined with spa therapy, and the control group (B) receiving physical therapy alone. The response to treatment was assessed using the Oswestry Disability Index, a self-questionnaire focusing on the functional status and well-being of chronic low back pain patients validated in its Arabic version. The questionnaire was given at the beginning and end of treatment. An improvement in Oswestry is considered clinically relevant if it is greater than 30%.
Sensitivity to change is estimated by the standardized mean response and effect size.

Results: 10 patients were included for this study: divided into two groups: 5 patients in the intervention group and 5 patients in the control group (B). We observed that 60% of patients had a clinically relevant improvement in Oswestry in group (A) versus 20% patient in group (B). The effect size for group (A) and group (B) is 1.20 and 0.71, respectively. The standardized response mean is 1.13 for group (A) versus 1.01 for group (B).

Conclusion: balneotherapy using thermal waters of Ouargla may be more effective in improving functional and well-being for patients with common chronic low back pain.

Key-words: *Oswestry Disability Index, Quality of life, Spa therapy, balneotherapy, Ouargla*

`REPORT OF THE INTERNATIONAL E-CONFERENCE "SUSTAINABILITY CHALLENGES AND TRANSFORMING OPPORTUNITIES AMIDST COVID-19"

If Knowledge is shared, it multiplies. With this aim S.S.Khanna Girls' Degree College, Prayagraj organised the five day International E-Conference on "Sustainability Challenges and Transforming Opportunities amidst COVID-19 from 26th- 30th July, 2020 under the banner of the Strengthening Component of Star College Scheme of the Department of Biotechnology of Government of India. The Inaugural Session of this Conference was graced by the presence of Honourable Founder Vice-Chancellor of PDM University, Bahadurgarh, Haryana. He delivered the keynote address on the topic " The Changing Face of Higher Education in India : Challenges and Opportunities. In his address he emphasized the importance of higher education and mentioned it as a driving force for social & economic growth, competitiveness & employment generation. In this E-Conference, Dr. Garima Gupta, Scientist E and Programme Officer of Star College Scheme of DBT, New Delhi. In her address she informed about the opportunities available under the funding schemes of applauded the efforts of the College in procuring the Scheme and reaping its benefits in the advancement of Science education among girls.

On the first day of the E-Conference in the first Technical Session, Dr. Sunaina Gowan from Australia emphasized that education is the ultimate mode to achieve 17 SDGs in this difficult time of the Pandemic. The Session was chaired by Prof. Dhananjai Yadav, Head, Department of Education, University of Allahabad, who in his concluding remarks said that education is the foundation of economic growth and overall human development.

In the second Technical Session, Dr. Sandeep K. Shukla, Quality Manager and Research Officer, Wainganga Water Quality Laboratory, Central Water Commission, Nagpur was the resource person. He delivered his lecture on " Water Quality Management : Effect on water quality due to lockdown". The session was chaired by Prof. Anil Kr. Bajpai of Bose Memorial Research Laboratory, Department of Chemistry, Government Auto Science College, Jabalpur.

The third technical session was chaired by Prof. R.K.Singh, Department of Chemistry and Controller of Examination, University of Allahabad. The Resource Person for this session was Dr.Rajesh Kumar Singh, Laboratory Director of R & D, Albzyma Therapeutics, PA USA. He dealt at large on the topic pertinent to present scenario-"COVID-19 Pandemic and the USA". He elaborated on the way the corona virus was introduced into the human life and spread from one geographical region to the other. In the concluding remarks Prof. R.K.Singh said that we had got lessons from the loss of human lives all across the globe. We need to be positive and make efforts to emerge from this situation by taking precautions and staying safe.

The second day of the E-Conference, in the First Technical Session Dr. Sayed T.H.Abedi, A Physician at the Scarlborough Hospital, Ontario, Canada, gave an informative talk on " How to live with COVID-19: Prevention, Symptoms, Treatment and sate of Vaccine". Dr. Abedi described how people were unaware of the consequences of getting infected with Corona, because the

symptoms varied from person to person and so it was necessary to follow the principle of "Prevention is better than Cure". The session was chaired by Prof. Ali Ahmad Fatmi, Former Head, Department of Urdu, University of Allahabad and Prof. A.K.Bajpai from the Govt. Autonomous College, Jabalpur.

The second technical session was chaired by Prof. R.K. Srivastava, Head, Department of Environment Science, Govt. Autonomous College, Jabalpur. The Guest Speaker in this Session Dr. Felix Bast dwelled on "SDGs at a personal level: Transition towards Citizens of the Globe and Creatures on Earth." He motivated the participants to practice sustainability at the personal level in their day to day lives by citing innumerable examples of the practices he adopted in observing sustainability. The Third Technical Session of Oral Presentations was Chaired by Dr. Archana Pandey, Department of Chemistry, C.M.P. Degree College and Dr. Sarita Srivastava, Department of Botany, C.M.P.Degree College, Prayagraj. In this Session a total of 10 participants presented their papers out of which 3 presentations were from International participants- Nigeria, France & Algeria. The Judges evaluate the paper presentations and a best paper was selected from each of the sub-theme presentations.

On the Third Day of the E-Conference, in the First Technical Session the guest Speaker was Dr. Mohd. Rehan, Departmnet of Electrical Engineering, Aligarh Muslim University, Aligarh and the Session was chaired by Prof. Indira Mehrotra, Former Head, department of Physics, University of Allahabad. Dr. Rehan delivered a lecture on "Sustainable Goals and Green Sources of Electric Energy". He told that from conventional sources of energy, emission of CO_2 is tremendous. Therefore, it is very essential to switch over to green energy. At last, the Chairperson, Prof. Indira Mehrotra concluded that green energy is sure, pure and secure and for this educators can big role in training the students to adapt to green sources of energy.

The Second Technical Session was chaired by Prof. Namita Singh, Department of Bio & Nano Technology, Guru Jambheshwar University of Science and Technology, Hisar, Haryana. In this Session, Dr. Namit Ranjan, Research Scientist at Department of Physical Biochemistry, Max Planck Institute for Biophysical Chemistry, Gottingen, Germany, delivered a lecture on " Contribution of Basic Sciences in Disease Prevention".

The Third Technical Session of oral presentations was based on the Social and Educational Sustainability theme. It was jointly chaired by Dr.Anuja Saluja, Department of Education, Ishwar Saran Degree College and Dr. Kajal Deb, Department of Education, Jagat Taran Girls' Degree College, Prayagraj. In the Sessions 12 participants made their paper presentations, amongst which one was from Canada.

On the fourth day of the Conference, the first technical session was chaired by Prof. Shanthy Sundaram, Coordinator of Centre for Biotechnology, University of Allahabad. In this session, Dr. Prem Prakash Yadav, Principal Scientist, Medicinal and Process Chemistry Division, CDRI, Lucknow provided insight into the topic "Recent Advances in Drug Repurposing for Combating Sar-Cov-2. He very well explained that repurposing of many drugs, to combat the disease, has yielded good results

The second technical session of oral presentations was chaired by Dr. Neerja Kapoor, Head,

Department of Zoology, CMP Degree College and Dr. Justin Masih, Department of Chemistry, Ewing Christian College, Prayagraj. In this session, total 13 papers were presented out of which one paper was from Algeria.

In the Third Technical Session, Mr. Thomas P. Valenti, Conflict Resolution Specialist, Chicago II, USA delivered a lecture on the topic "Alternative Dispute Resolution in the COVID-19 Era" under the theme of legal sustainability. The distinguished speaker outlived the various forms of Alternative Dispute Resolution and explained how it is more desirable than the traditional justice system. The session was chaired by Prof. Shakeel Samdani, Dean, Faculty of Law, Aligarh Muslim University.

The Fourth Technical Session was chaired by Prof. Ashish Saxena, Head, Department of Sociology, University of Allahabad. In this session, Prof. Unnat P.Pandit, Professor of IP, Innovation & Entrepreneurship, JNU & Former Director, Atal Innovation Mission, NITI Aayog, New Delhi delivered a lecture on "Atm Nirbhar Bharat- Role of Youth in Societal Transformation. In his talk he explained that this transformation can only be brought about by start-ups in imparting of education through skills and strengthening the innovation ecosystems in India according to global trend and trade.

The fifth day of the E-Conference witnessed lectures on the theme of Legal Sustainability. In the first technical session of the day, Prof. S.G. VenkatSubramanian, Anna University, Chennai delivered his lecture on "The role of Legal Regime in India and the International Level: its effectiveness for the sustenance of sustainable development". He discussed various environmental laws and articles. The session was chaired by Prof. Prahlad Kumar, Former Dean, Faculty of Commerce & Former Head, Department of Economics, University of Allahabad.

In the second technical session, Dr. Tarun Arora, Professor, Department of Law, Dean, School of Legal Studies from Central University of Punjab, Bhatinda delivered his talk on "Sustainable Development Goals, Constitutional Values and Environment Education". He talked about the contribution of India towards environment protection and also urged everyone to adopt the practice of three 'R's- reduce, reuse and recycle. This session was chaired by Prof. Prahlad Kumar.

The third technical session, oral paper presentations were made on the theme of legal sustainability. The session was chaired by Dr. Sushma Sharma of National Law Institute University, Bhopal. A total of five participants presented their papers on different aspects of legal sustainability issues.

The Valedictory Session of this E-Conference was graced by Prof. K. V. Bhanumurti, Former Dean, Faculty of Commerce, Delhi School of Economics, University of Delhi, as the Keynote Speaker. He delivered his address on the topic " Climate Change, Sustainability and Poverty". He said that four SDGs specially 12- Responsible consumption & production, 13- Climate Action, 14- Life below water and 15-Life on land should be considered seriously and action instituted for their attainment.

Some important conclusions which have been drawn from the E-Conference are:-

1. **Regarding Environmental Sustainability:-**
   - To counter the environmental threats at the global level and limit the phenomena of global warming, we would have to follow proper mitigation and adaptation measures (Prof. Bhanumurti)
   - In this time of pandemic, we have entered into a digital age, where electricity is a necessity, so we have to switch over to green energy sources
2. **For health Sustainability:-**
   - We must follow the principle " Prevention is better than cure".
   - Repurposing of drugs is very useful to combat the disease.
3. **Socio-Economic Sustainability can be seen :-**
   - By making a breakthrough in combining profit with sustainability values using five elements water, energy, waste, ecology and food.
4. **For Educational Sustainability:-**
   - Use of ICT should be emphasized in education, specially higher education. New Education Policy will have far reaching effects on higher education.
5. **For Legal Sustainability:**
   - Action should be taken against fake news and laws should be implemented.

This conference was enriched with the nuts of intellect and inspiration by the presence of experts of various fields including Vice- Chancellor, Directors, doctor, Professors. Eminent Scientists, Legal Experts including experts from various other fields. Participation of 260 scholars from 7 foreign nations- France, Canada, Australia, U.S.A., Germany, Algeria, Nigeria and from each and every state of India provided the Conference a new height.

At last, lets make a commitment for adopting good health practices, saving the environment and ensuring a sustainable social and economic growth as COVID-19 offers a chance to reset and reshape the world in a more sustainable way.

Best Papers
Technical Session III

Environmental / Health Sustainability
27/07/2020

Name	Designation & Affiliation	Topic
Shehala Best paper (Research Schloar)	Research Scholar, Department of Chemistry Polymer Research laboratory, Department of Chemistry, University of Allahabad	Guar Gum Inspired Nickel Oxide (Gnioc) Nanoparticle :Synthesis, Characterization And Catalytic Evaluation
Dr. **Richa Srivastava** Best paper (Faculty)	Faculty, **Assistant Professor** Department of Applied Chemistry Delhi Technological University Delhi; India	Psychoactive Substances in Health Sustainability

Best Papers
Technical Session III

SocioEconomic/Educational Sustainability
28/07/2020

Name	Designation & Affiliation	Topic
Angela Sarkar Best paper (Research Schloar)	Research Scholar, School of Economics, Hyderabad	A Place of Shelter- Well Being, Development and Improvement
Dr. Sayan Dey Best paper (Faculty)	Faculty, Chaiduar College (Gauhati University) Assam	Decoding Learning with COVID-19: Opportunities, Challenges and the Road Ahead

Best Papers
Technical Session II
Environmental / Health Sustainability
29/07/2020

Name	Designation & Affiliation	Topic
Ms.Mansi Sharma Best paper (Research Schloar)	Research Scholar Biotechnology Jaypee Institute of Information Technology Noida, Uttar Pradesh; India	Exploring of anticancer and other pharmacological potential of Musa paradisiaca. peel extract
Dr.Kumar Gaurav Best paper (Faculty)	Assistant Professor Amity Institute of Biotechnology Amity University Haryana Gurugram; Haryana	Waste-water Treatment and Electricity Generation Simultaneously Through Microbial Fuel Cell

Best Papers
Technical Session III
Legal Sustainability
30/07/2020

Name	Designation & Affiliation	Topic
Mr. Shantanu Anand Best paper (Student)	Pursuing B.A.LL.B. (Hons.) from Dr. RMLNLU, Lucknow Manohar Lohiya National Law University Lucknow Uttar Pradesh India	Pragmatic Manoeuvre in Covid- 19 crisis.
Dr. K. Sangeetha Best paper (Faculty)	Assistant Professor International Law The Tamil Nadu Dr.Ambedkar Law University Chennai; Tamil Nadu; India	Legal Perspective as to COVID -19

Best Paper Selected By The Organizers

Name	Designation & Affiliation	Topic
Dr. Ananda Majumdar	Faculty of Education University of Alberta Edmonton, Alberta Canada	The Goals of Sustainable Development in the Affected Areas: A Relations from the Normal to the New Normal Scenario

Best Paper Selected By The Organizers

Name	Designation & Affiliation	Topic
Dr. Ananda Majumdar	Faculty of Education University of Alberta Edmonton, Alberta, Canada	The Goals of Sustainable Development in the Affected Areas: A Relations from the Normal to the New Normal Scenario