

SOBAS NEWS

SOBAS News, Adamas University, Volume- I, Issued 2021.

School of Basic & Applied Sciences



Editorial Team

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Prof. Jitendra Kumar Pandey

Co- Editor

Dr. Prantik Banerjee (8100631196)

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Dr. Moumita Dey (9830224321)

Dr. Kasturi Mukherjee (9874354990)

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Message from the Chancellor



"I am glad to know that the School of Basic and Applied Sciences has decided to publish a newsletter. The global coronavirus pandemic has changed so much for all of us-our work, our family lives, and how we connect with one another. This newsletter, I believe will once more bring our Adamas family closer.

Today, Higher education has become more important to the world than any time in human history. The world is plagued by serious problems that are threatening our civilization - a devastating pandemic, increasing economic disparities, climate destruction - to name just a few. To keep them in check, we need more education and more research. Today we need better concepts, better data, better policies and better collaborations.

While we all await and long for a return to a "new" normal, we must continue our quest for excellence through new initiatives, new alliances and inter-disciplinary research. We must focus, not only just on immediate concerns but on a broader horizon, committed to making our world better.

I congratulate all the members of School of Basic and Applied Sciences for publishing this newsletter, which I am sure will be interesting and enlightening."

Thanking you,
Prof. Samit Ray
Chancellor

Message from the Vice Chancellor



"With a pandemic that does not seem to end, life feels uncertain. But what isn't uncertain is our determination to pursue our academic dreams. I am extremely glad to note that the School of Basic and Applied Science (SOBAS), Adamas University, is coming up with a newsletter to showcase the overall School activities. The ancient Greek philosopher Plutarch had once remarked: "The mind is not a vessel to be filled, but a fire to be kindled." I congratulate the Faculty and students of SOBAS, who used various mediums of expression to present their ideas. As long as our ideas are expressed and thoughts kindled we can be sure of learning, as everything begins with an idea.

To say the last twelve months have been challenging would be a huge understatement. We have all had to deal with the devastation this global pandemic has caused in our homes, communities and societies, but positive things have also come out of the crisis. Our ability to continue with our academics throughout the pandemic was vital and it will continue to be so in the coming months and years ahead as our society recovers. And although we haven't been able to deliver most of our programme on campus this year, I am delighted that we all remained connected virtually. It has provided a fantastic way for us to be in touch with our Adamas family. I am sure that this newsletter will not be a one-off item and will be an ideal platform for exchange and showcase of innovative ideas.

Wishing SOBAS many glorious years ahead."

Thanking you,
Prof. Deependra Kumar Jha
Vice Chancellor

Message from the Pro-Vice Chancellor (Research and Development Affairs) and Dean, SOBAS



"School of Basic and Applied Sciences is committed to make you Job Ready, Dedicated and Proud professionals of Science through strong foundational Subject Knowledge, Hands-on Training, Interdisciplinary Research and Global Collaborations"

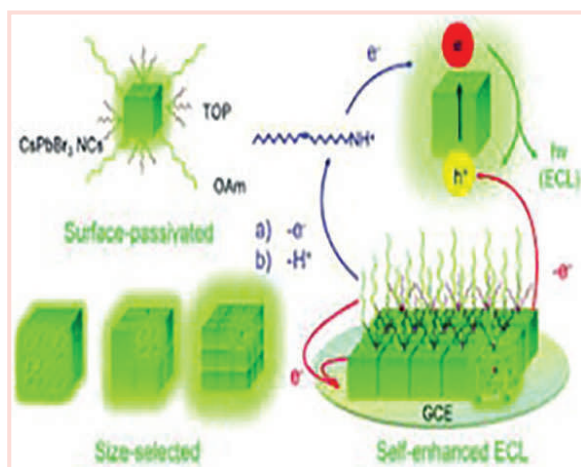
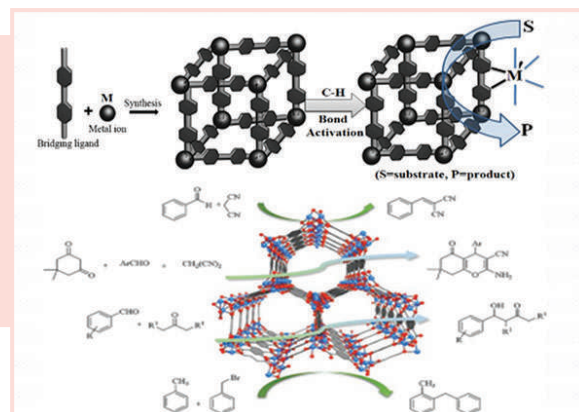
Thanking you,
Prof. Jitendra K. Pandey
Dean, SOBAS, Adamas University

Projects Govt./Industry funded Research projects (SOBAS)

External funded projects from DST, SERB, DRDO and other agencies led by faculty of school for conducting research and solving problems in various areas. Implementation of extramural projects offer an excellent opportunity for faculty members to carry on their knowledge creation and quench their thirst for knowledge, as well as to develop the aptitude of research in the scientific personalities of tomorrow.

Synergy between metal-organic frameworks and organometallics through C-H bond activation: Novel approach in heterogeneous multifunctional catalysis,
Awarded by SERB- DST

PI: Dr. Rupam Sen; Price: Rs. 37.45 lakhs

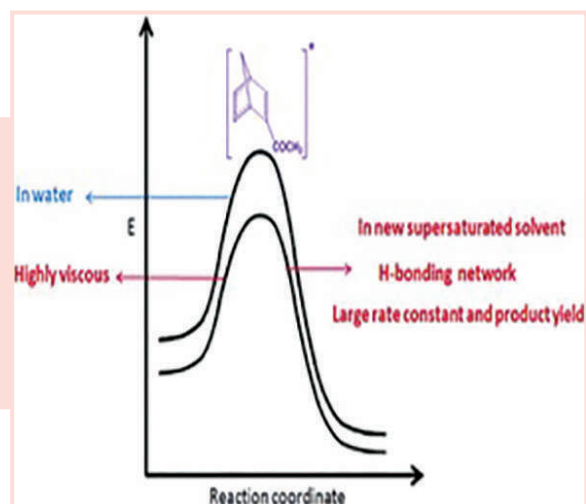


Delineation of the Physico-chemical Basis of the Progress of C-C Bond Forming Organic Reactions in Aqueous and Natural Supersaturated Media;

Sanction No. ECR/2017/001253.

Awarded by SERB-DST;

PI: Dr Arpan Manna; Rs. 29.45 Lakhs

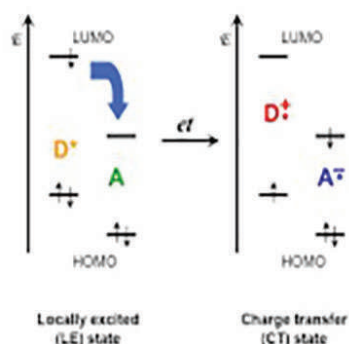


Rational development of surface engineered perovskite nanocrystals and understanding their photo physical properties, Duration 3 year.

Awarded by SERB-DST;

PI : Dr. Arunashis Layek; Rs. 29Lakhs

Photoinduced electron transfer



Photoinduced Energy /Electron Transfer;

Awarded by DST;

PI: Dr. Prof. Sanjib Ghosh, Project Cost: Rs. 80 Lakhs

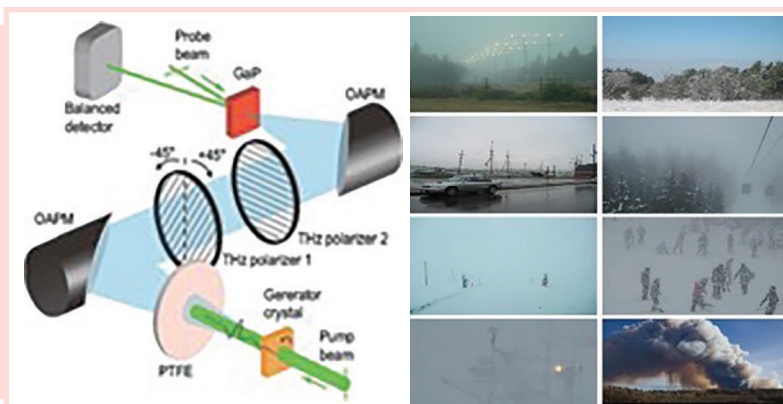
Projects

Govt./Industry funded Research projects (SOBAS)

Development of a self- consistent Physics based predictive model for the computation of THz- window frequency signal attenuation in fog with varying visibility and in rain with varying rain rates. By DRDO

PI: Dr. Moumita Mukherjee,

Project Cost: Rs. 22.65 Lakhs



The development of AI enabled radiography assisted test process for mass-screening of nCOVID19 patients. By Elmax Systems & Solutions -

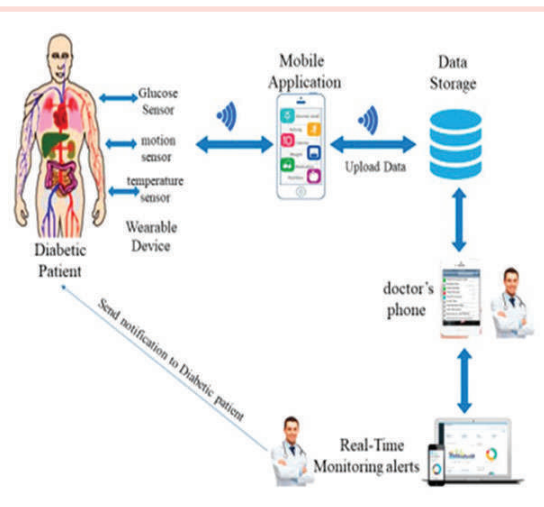
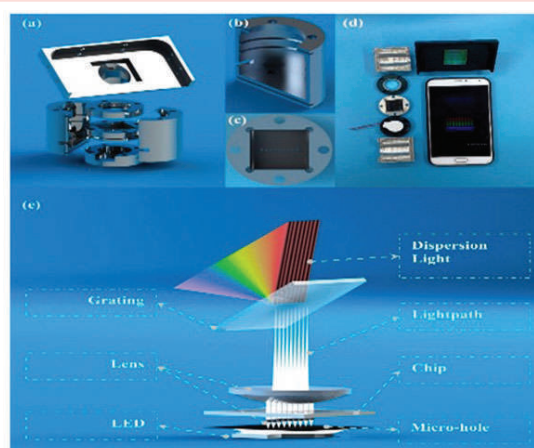
Awarded by MATLAB Company

PI: Dr. Moumita Mukherjee, Project Cost: Rs. 15 Lakhs

On-chip Terahertz imaging & spectroscopy sensor for smartphone based medical diagnostics - Phase I

Awarded by Industry Start Up Grant

PI: Dr. Moumita Mukherjee, Project Cost: Rs. 18.85 Lakhs



Design and Development of a Non-invasive Blood Glucose Monitoring Unit for Type I & II Diabetic Patient

Awarded by Industry Start Up Grant

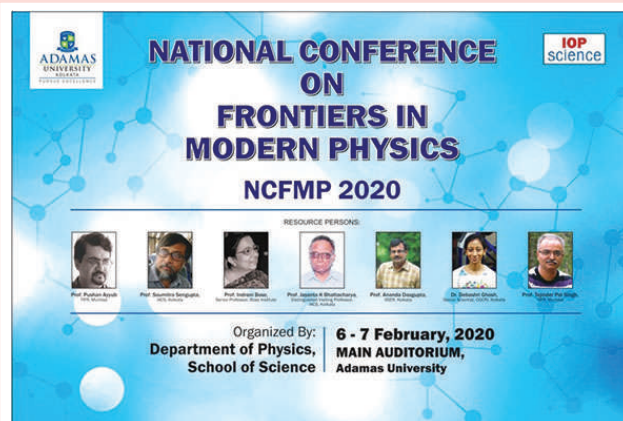
PI: Dr. Moumita Mukherjee, Project Cost: Rs. 5 Lakhs

Workshop / Webinars / Training programmes

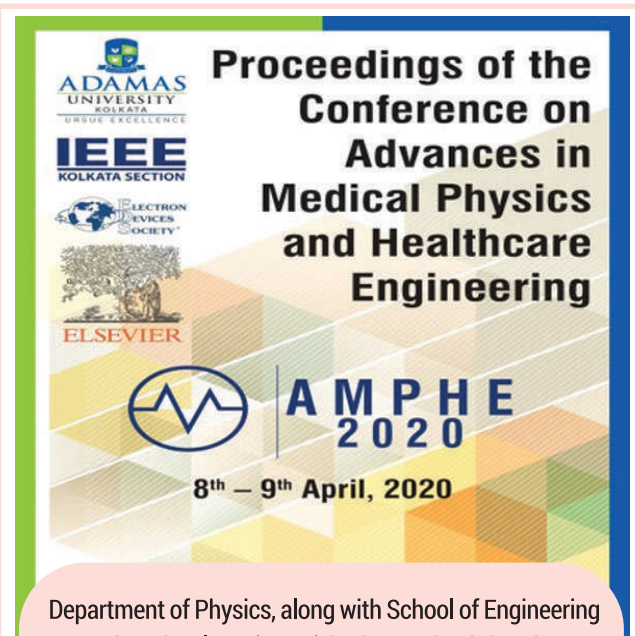
Eminent professionals from different domains of basic and applied science are invited in various symposiums, conferences, seminars, and webinars. Both students and faculty members attend such events. Flyers of some events organised here in SOBAS are listed below.



Department of Physics, School of Basic and Applied Sciences, Adamas University, had organized a Two day National Conference NCFMP2018 (National Conference on Frontiers in Modern Physics) during 16th-17th August, 2018 in technical collaboration with American Institute of Physics, USA.



Department of Physics, School of Basic and Applied Sciences, Adamas University, had organized the Second National Conference NCFMP2020 (National Conference on Frontiers in Modern Physics) during 6th-7th February, 2020 in technical collaboration with IOP Science, UK.



Department of Physics, along with School of Engineering and Technology (SOET) had organized the First International Conference AMPHE2020 (Advances in Medical Physics and Healthcare Engineering Physics) during 8th-9th April, 2020 in technical collaboration with IEEE – Kolkata Section.



Department of Physics, Adamas University in Association with Institute of Engineers – India (IEI), Rasscorb Technologies Pvt. Ltd. And Robotics Society / Club – Adamas University has conducted a 2 Day National Workshop on “Flying Robotics and Automation – 2018: Science and Technology of DRONE and it’s application in various domain”.

Workshop / Webinars / Training programmes

Online Workshop on
Intellectual Property Rights:
A Scientist's Perspective

Organized by
 Department of Physics and Department of Geography
 School of Basic and Applied Sciences (SOBAS)

Date and Time
 3rd to 5th February, 2021, 11:00 AM-4:30 PM

Resource Persons

Day 1 (3rd February, 2021)	Day 2 (4th February, 2021)	Day 3 (5th February, 2021)
 Mr. Sudipta Ghosh Head-IP Management Wipro Technologies Ltd.	 Dr. Avishek Chakraborty Assistant Professor School of Law CHRIST University	 Dr. Susil Kumar Mitra Ex-Deputy Controller of Patents & Designs at the Patent Office, Govt. of India, Kolkata, West Bengal, India
 Dr. Mandira Roy General Manager Commercialization / Tech Transfer, Adasta IP Pvt. Ltd.	 Dr. Shambhu Prasad Chakrabarty Head, Research Fellow and Centre Coordinator Centre for Regulatory Studies Governance and Public Policy, WBNUJS, India	

Workshop on Intellectual Property Rights: A Scientist's Perspective

Resource Persons: Mr. Sudipta Ghosh, Dr. Avishek Chakraborty, Dr. Susil Kumar Mitra, Dr. Mandira Roy, Dr. Shambhu Prasad Chakrabarty

INDUSTRY-ACADEMIA MEET

Department of Physics, School of Science
 is organizing an online workshop on

**MACHINE LEARNING & DATA SCIENCE
 WITH MATLAB & SIMULINK**

in collaboration with
 ELMAX Systems & Solutions - India

Official Training partner
 MSME Tool Room, Govt of India

ELMAX Systems & Solutions
 An ISO 9001:2015 Certified Company

MATLAB & SIMULINK

SW MATLAB

Date : 21th May, 2020 Time : 4.30 PM - 6.30 PM
 Place : Online workshop Registration Fees : Free

Resource Person
 Mr. Debajit Sen
 Technical Project and Application Head,
 ESS Kolkata

Department of Physics, School of Basic and Applied Sciences, Adamas University, Kolkata had organized an online Workshop on "MACHINE LEARNING & DATASCIENCE WITH MATLAB & SIMULINK" In technical collaboration with ELMAX Systems & Solutions (Authorized Channel Partner of MathWorks), Kolkata on 26th of May, 2020. The Keynote speaker of this event was Mr. Debajit Sen, an alumnus of IIT Kharagpur. Nearly 200 Participants had registered for the event.

**School of Science,
 Department of Physics
 is organizing an Webinar on**

**THE ONSET OF DECONFINEMENT AFTER
 LOCKDOWN AND THE QUARK-GLUON PLASMA**

Date : 26th May, 2020 | Time : 5 PM - 6 PM

RESOURCE PERSON


 Prof. Tapan Kumar Nayak
 CERN & NISER, Bhubaneswar
 Deputy Spokesperson, ALICE at LHC, CERN, Geneva, Switzerland
 Fellow of Indian Academy of Sciences, Bangalore
 Fellow of the National Academy of Sciences, India

Convener: Dr. Tamal Kumar Mukherjee, Associate Professor, Dept. of Physics
 Coordinator: Dr. Moumita Dey, Head, Dept. of Physics
 Moderator: Prof. Bimal Kumar Sarker, Dean, School of Basic and Applied Sciences
 Prof. Aparajita Bhattacharya, Professor, Dept. of Physics

For Free Registration, Fill up the Google form (Limited Seats)
<https://forms.gle/wphoPcUvHrG3A358>

For any details please feel free to contact
 Dr. Tamal Kumar Mukherjee : tamalkumar.mukherjee@adamasuniversity.ac.in or Call at +91 7980708346
 Dr. Moumita Dey : moumita.dey@adamasuniversity.ac.in or Call at +91 9830224321

E-Certificates will be provided after successful participation.

Webinar on 29th May, 2020
 Speaker: Prof. Tapan Kumar Nayak
 Topic: The onset of deconfinement after lockdown and the Quark-Gluon Plasma

**School of Basic & Applied Sciences,
 Department of Physics
 is organizing a Panel Discussion on**

**BEYOND ACADEMIA: CAREER PATHS IN PHYSICS AND APPLIED PHYSICS
 IN TODAY'S WORLD!**

Date : 30th May, 2020 | Time : 5 pm

PANELISTS

 Prof. Sanghy K Ghosh Chairman, Department of Physics Chennai, Environmental Science Bose Institute, Kolkata.	 Mr. Abhaya Malik AIIM, Galathea Service Sangha High School Examiner of WBSE and WBCHSE	 Mr. Abhijit Das Director, Career Development Cell and Group Counsellor Adamas University	 Prof. Dr. Binod Kumar Sarker Dean, School of Basic and Applied Sciences Adamas University	 Dr. Soumen Datta Assistant Professor Department of Psychology Adamas University
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In presence of All members of Department of Physics, Adamas University

CONVENER

 Dr. Tamal Kumar Mukherjee
 Associate Professor,
 Department of Physics

MODERATOR

 Dr. Moumita Dey
 Head,
 Department of Physics

For Free Registration, Fill up the Google Form Link
<https://forms.gle/NoNiJIGULNp7uJze7>

For any query feel free to contact
 Dr. Moumita Dey:
 moumita.dey@adamasuniversity.ac.in or Call at +91 9830224321
 Dr. Tamal Kumar Mukherjee:
 tamalkumar.mukherjee@adamasuniversity.ac.in or Call at +91 7980708346

Limited Seats

Panel Discussion on 29th May, 2020
 Topic: Beyond Academia: Career Paths in Physics and Applied Physics in Today's World

Workshop / Webinars / Training programmes

DEPARTMENT OF PHYSICS, ADAMAS UNIVERSITY KOLKATA

Webinar series on
nCOVID 19 Era
Challenges and Opportunities

Date: 7th June, 2020

SPEAKER
DR. PRANJAL PHUKAN
Associate Professor,
Dept. of Radiology and Imaging
North Eastern Indira Gandhi
Regional Institute of Health
and Medical Sciences
Title: Novel Corona Virus diagnosis:
Imaging based techniques
Time: 4:30 pm - 5:15 pm

SPEAKER
MR. ANINDA BOSE
Senior Editor,
Springer Publishing House
Title: nCOVID 19:
Impact on Publication Domain
Time: 5:15 pm - 6 pm

Convenor: Dr. Moumita Mukherjee, Associate Professor, Department of Physics
Coordinator & Moderator (s):
Dr. Satarupa Biswas, Assistant Professor, Department of Physics
Dr. Moumita Dey, HOD, Department of Physics

For Free Registration click on the Link :
<https://forms.gle/Q5ysU3J2io6Yg8rN7>

Webinar on 7th June, 2020
Speaker: Dr. Pranjal Phukan, and Mr. Aninda Bose
Topic: nCOVID19 Era: Challenges and Opportunities

ADAMAS
SCHOOL OF BASIC AND APPLIED SCIENCES

Department of Physics,
Adamas University,
Kolkata

Webinar on
**EXPLORING UNIVERSAL
PHENOMENON IN
DIFFERENT
ENERGY SCALES:
MATERIALS FOR
THE DECADES**

Date: 12th June' 20 Time: 3 pm-4 pm

RESOURCE PERSON >

DR. SUDIPTA KANUNGO
Assistant Professor,
School of Basic and Applied Sciences

Convenor:
Dr. Swarup Kumar. Neogi
Assistant Professor, Department of Physics
Dr. Diptasikha Das,
Assistant Professor, Department of Physics

Moderator :
Dr. Moumita Dey,
HOD, Department of Physics

Webinar on 12th June, 2020
Speaker: Dr. Sudipta Kanungo
Topic: Exploring universal phenomenon in different
energy scales: Materials for the decades

SPECIAL LECTURE
on
**TRANSLATION RESEARCH IN
PHYSICS AND MATERIAL SCIENCE**

Organized by
Department of Physics School of Science, Adamas University

Speaker
Arup Kumar Raychaudhuri
Distinguished Professor (Emeritus),
S. N. Bose National Centre for Basic Sciences, Kolkata

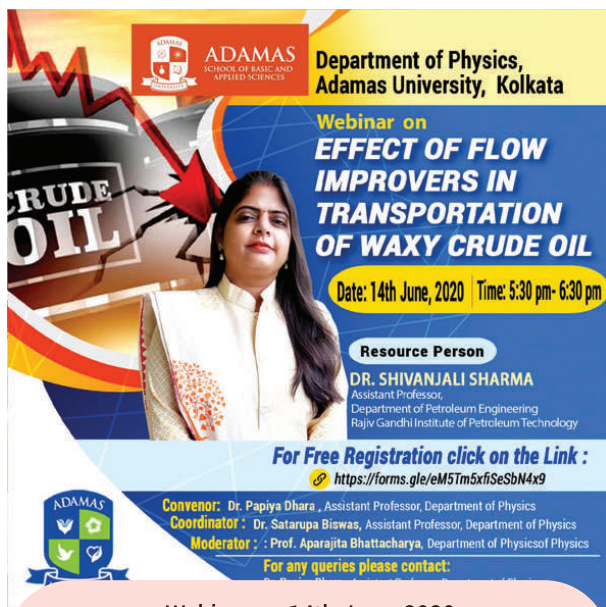
Formerly
• Director and Distinguished Professor, S.N. Bose National Centre for Basic Sciences, Kolkata
• Director, National Physical Laboratory (CSIR), New Delhi
• Professor, Indian Institute of Science, Bangalore

Recipient of
Shanti Swarup Bhatnagar Award, Meghnad Saha Medal, J.C. Bose Fellowship,
Homi Bhabha Medal (INSA), Distinguished Materials Scientist of the Year
Award and many more...

5th September, 2019 at 3:30 P.M.
Video Conference Room,
AU Management Building

Department of Physics, School of Basic and Applied Sciences, Adamas University, has organised the First of the series "ADAMAS University Research Colloquium 2019" through the invited talk with the title "Translational Research in Solid State Physics and Material Science" on 5th September, 2019.

Workshop / Webinars / Training programmes



ADAMAS
SCHOOL OF BASIC AND APPLIED SCIENCES

**Department of Physics,
Adamas University, Kolkata**

**Webinar on
EFFECT OF FLOW
IMPROVERS IN
TRANSPORTATION
OF WAXY CRUDE OIL**

Date: 14th June, 2020 | Time: 5:30 pm- 6:30 pm

Resource Person
DR. SHIVANJALI SHARMA
Assistant Professor,
Department of Petroleum Engineering
Rajiv Gandhi Institute of Petroleum Technology

For Free Registration click on the Link :
<https://forms.gle/eM5Tm5x7Se5bN4x9>

Convenor: Dr. Papiya Dhara, Assistant Professor, Department of Physics
Coordinator : Dr. Satarupa Biswas, Assistant Professor, Department of Physics
Moderator : Prof. Aparajita Bhattacharya, Department of Physics of Physics

For any queries please contact:

Webinar on 14th June, 2020
Speaker: Dr. Shivanjali Sharma
Topic: Effect of Flow Improvers in Transportation of Waxy Crude Oil



**Adamas University
School of Basic & Applied Sciences,
Department of Physics**
is organizing Webinar on

**CLINICAL
INVESTIGATION
TECHNIQUES OF
GASTROINTESTINAL
DISORDERS**

Date : 5th July, 2020 | Time: 5.00 pm – 6.00 pm

Convenor:
Dr. Satarupa Biswas,
Assistant Professor, Dept. of Physics

Coordinator:
Dr. PapiyaDhara,
Assistant Professor, Dept. of Physics

Registration Link:
<https://forms.gle/mY9aFXXhEM7G1pi58>

For any query contact
Dr.Satarupa Biswas
Email: satarupa.biswas@adamasuniversity.ac.in
Mobile: +91 9804506501

Resource Person
DR. RUHINA AHMED
Senior Endoscopy Fellow at
University Hospitals Coventry, UK

Webinar on 5th July, 2020
Speaker: Dr. Ruhina Ahmed
Topic: Clinical Investigation techniques of Gastrointestinal disorders



**Adamas University
School of Basic & Applied Sciences,
Department of Physics**
is organizing Webinar on

**COVID19 AND SUSTAINABLE
DEVELOPMENT IN DEVELOPING
COUNTRY CONTEXT:
SPECIAL REFERENCE TO INDIA**

Date: 25th July, 2020, Saturday Time: 5.00 pm

Convenor:
Professor Aparajita Bhattacharya,
Department of Physics, Adamas University, Kolkata

Coordinator:
Dr. Papiya Dhara,
Department of Physics, Adamas University, Kolkata

Moderator:
Dr. Moumita Dey,
Department of Physics, Adamas University, Kolkata

For Free Registration Fill up the Google Form:
<https://forms.gle/x1kz9R8gcXkm5FW7A>

For any queries please contact:
Dr. Papiya Dhara
Email: papiya.dhara@adamasuniversity.ac.in
or call at +91 7759918851

PROFESSOR JOYASHREE ROY
Bangabandhu chair professor
Asian Institute of Technology (AIT), Thailand
Founder Advisor, Global Change Programme & SYLFF-JU
Professor of Economics, Jadavpur University
ICSSR National Fellow
Breakthrough Senior Fellow

Webinar on 25th July, 2020
Speaker: Prof. Joyashree Roy
Topic: Covid 19 and sustainable development in developing country context: Special Reference to India



**International Conference
on
Geospatial Science for Digital
Earth Observation (GSDEO), 2021**

Organised by
Indian Society of Remote Sensing Kolkata Chapter
and Department of Geography,
School of Basic and Applied Sciences,
Adamas University

Website:
<http://science.adamasuniversity.ac.in/gsdeo2021/>
Date: March 26-27, 2021
Time: 9:30 am - 5:30 pm

ISRS
INDIAN SOCIETY OF REMOTE SENSING
ADAMAS UNIVERSITY
FOUNDER MEMBER

Speakers:

Day 1:
<https://zoom.us/j/96409931280?pwd=M6FUDJYV>
Meeting ID: 964 0993 1280
Passcode: 865733

Day 2:
<https://zoom.us/j/9888248561?pwd=WH65e>
Meeting ID: 988 8248 5612
Passcode: 978375

Contact:
Dr. Tapan Bhattacharya, Convenor
(+91 22004440)
Dr. Karabi Mukherjee, Organising Chair
(+91 9874354990)
Email:
gsdeo2021@adamasuniversity.ac.in

**Conference proceedings
will be published in
Earth and Environmental Science (EES),
Scopus Indexed**

Prof. Gerald Mills
Department of Geography
University of Derby

Prof. R.B. Singh
Department of Geography
University of Delhi

Prof. Sugata Hazra
School of Geomatics Studies
Jadavpur University, Kolkata 32

Prof. SP Agarwal
Scientist, Indian Institute
of Remote Sensing

Prof. Soumya Kanti Ghosh
Department of Computer Science
and Engineering, Indian Institute
of Technology, Kharagpur

Prof. L. N. Satpati
Professor of Geography and
Director, IGC, National
Resource Development Centre,
University of Calicut

Dr. P. Chakraborty
Founder Secretary, IISRS,
and Former Chief Scientist,
ISRO, Kolkata

Dr. A.K. Raha, IIS (Retd.)
Former PGD, IIS, Guwahati and
Executive Professor,
Teachoo India University

International Conference on Geospatial Science for Digital Earth Observation(GSDEO),2021
Speakers: Prof. Gerald Mills, Prof.R.B.Singh, Prof. Sugata Hazra, Prof. SP Agarwal, Prof. Soumya Kanti Ghosh, Prof. L.N.Satpati,Dr. P.Chakraborty, Dr.A.K.Raha

Workshop / Webinars / Training programmes

School of Basic and Applied Sciences
Organising


Future Geographers – I

A panel discussion on the road map for geographers at Adamas University


Date: 25th February, 2021
Time: 3.00 pm – 4.00 pm

PANELLISTS






BALAN BASU
Managing Director,
Opsis System Pvt. Ltd.



ANIRUDDHA DAS
Director,
Topo India



BABLU GAYEN
HR and Director Finance and Accounting
Geomatix Scientific Services Pvt. Ltd.

Moderators:
Dr. Kasturi Mukherjee, Head, Department of Geography, Adamas University
Dr. Tuhin Bhadra, Assistant Professor, Adamas University

Coordinator:
Dr. Anu Rai, Assistant Professor, Adamas University
M. 9674252647


A Panel discussion on the Road Map for Geographers at Adamas University

Panellists: Balen Basu, Aniruddha Das, Bablu Gayen.

Celebrating
NATIONAL SCIENCE DAY, 2021

Platform : Zoom Date : 28.02.2021 Time : 11.00 - 12.00 am






Speaker
PADMA SHREE
VIKRAM CHANDRA THAKUR
Former Director, Wadia Institute of Himalayan Geology
Fellow, Indian Academy of Sciences

Coordinated by:
Mallari Basu & Sourina Debnath (M.Sc. Geography)

Organized by
School of
Basic and Applied Sciences,
Adamas University



Celebrating National Science Day, 2021
Speaker: Vikram Chandra Thakur, Former Director, Wadia Institute of Himalayan Geology, Fellow, Indian Academy of Science

School of Basic & Applied Sciences,
Department of Geography
is organizing second Webinar of the Webinar Series on
"Direction of Geographical Studies: COVID-19 and Beyond"



Webinar Title

APPLICATION OF GIS-RS BASED TECHNIQUES AND RESEARCH HORIZON IN GEOGRAPHICAL STUDIES

Speaker



DR. MEHEBOOB SAHANA
Research associate, School of Environment,
Education & Development, University of
Manchester, United Kingdom &
Research Consultant, IGCMC, WWF-India.

Moderator:
Dr. Rajib Sarkar, Department of Geography,
School of Basic and Applied Science

Date : 20th June, 2020
Time: 4 pm (IST)

Registration Link: <http://shorturl.at/mQU12>
Registration Deadline: 20/06/2020, 10:00 am
For any query contact Email: geo.adamas2020@gmail.com

No Registration Fees

Webinar on Application of GIS-RS based techniques and research horizon in geographical studies

Speaker: Dr. Meheboob Sahana

Research Associate, School of Environment, Education & Development, University of Manchester, U.K.
Research Consultant, IGCMC, WWF-India.

School of Basic & Applied Sciences,
Department of Geography
is organizing Third Webinar of the Webinar Series on
"Direction of Geographical Studies: COVID-19 and Beyond"



International Webinar on

"CHALLENGES OF CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT GOALS"

Date : 29th June, 2020 | Time: 1.30 to 3.30 pm (IST)

Speakers



PROF. SUGATA HAZRA
Jadavpur University,
Kolkata, India



DR. PAPIYA MAJUMDAR
York University,
York, UK



DR. TIM DAW
Stockholm Resilience Centre,
Stockholm, Sweden

Moderator: Ms. Kasturi Mukherjee, Head, Department of Geography
Dr. Tuhin Bhadra, Assistant Professor, Department of Geography

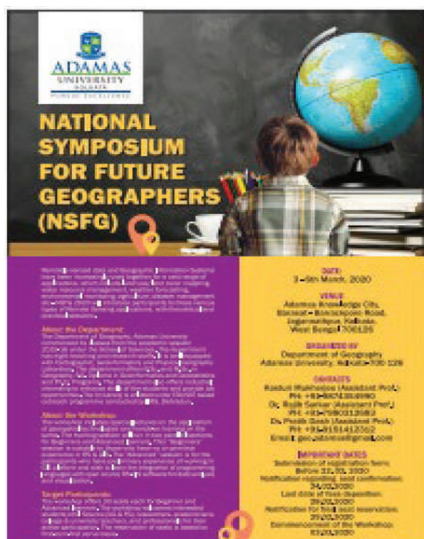
International Webinar on "Challenges Of Climate Change And Sustainable Development Goals

Speakers: Prof. Sugata Hazra, Jadavpur University, Kolkata, India

Dr. Papiya Majumdar, York University, York, UK.

Dr. Tim Daw, Stockholm Resilience Centre, Stockholm, Sweden

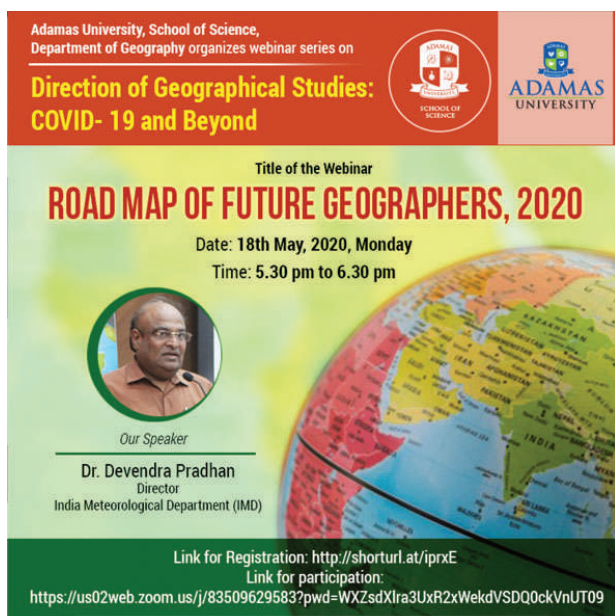
Workshop / Webinars / Training programmes



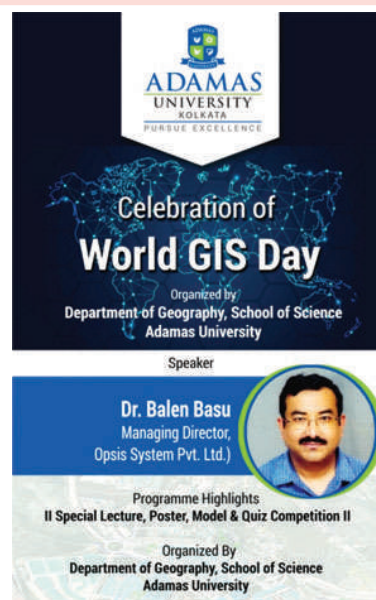
National Symposium For Future Geographers(NSFG)
Resource persons: Dr. Kalyan Rudra, Dr. Devendra Pradhan, Dr. Tapati Banerjee, Mr. Biswajit Giri, Prof. Rahul Bhattacharya, Prof. Sunando Bandyopadhyay, Dr. Surajit Ghosh,



Panel Discussion on
"The Science of Places: Exploring the Career Goals and Competencies of Future Geographers"
Panellists: Dr. Priyank Pravin Patel, Prof. Bimal Kumar Sarkar, Dr. Jhilli Das, Ms. Nandini Gangopadhyay, Mr. Shaky Ganguly, Mr. Abhijit Giri

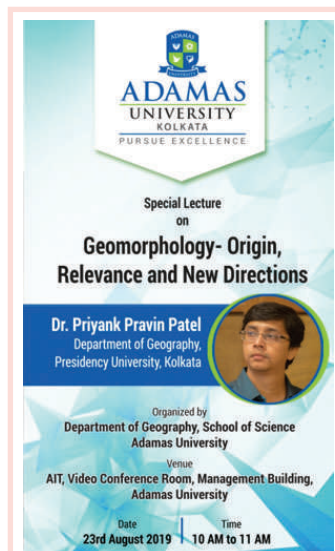


Webinar on Road Map of Future Geographers, 2020
Speaker: Dr. Devendra Pradhan, Director, India Meteorological Department(IMD)

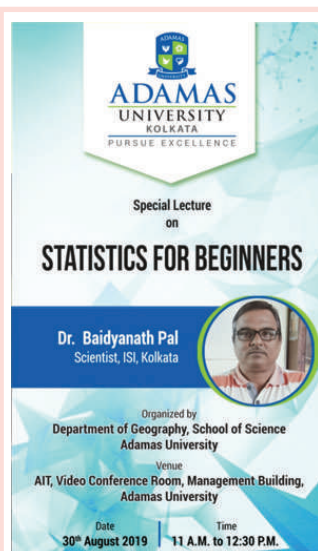


Celebration of World GIS Day, 2019
Special Lecture by Balen Basu, Managing Director, Opsis System Pvt. Ltd.

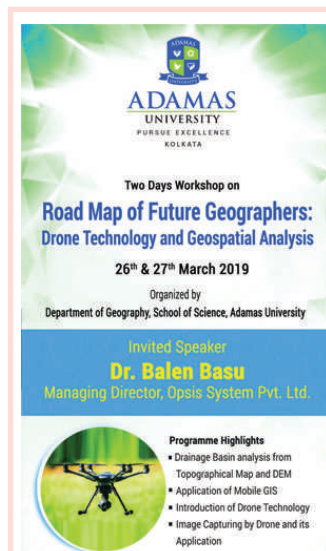
Workshop / Webinars / Training programmes



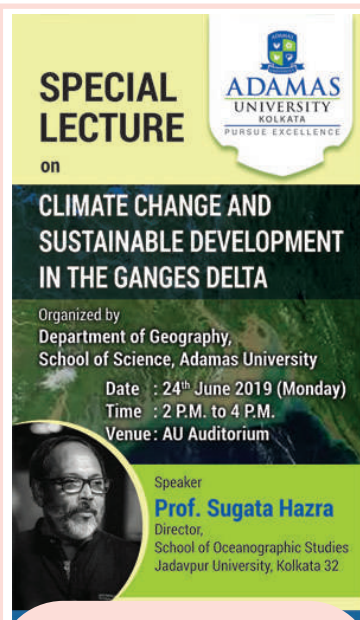
Special Lecture On Geomorphology
-Origin, Relevance And New Direction.
Speaker: Dr. Priyank Pravin Patel,
Department Of Geography,
Presidency University



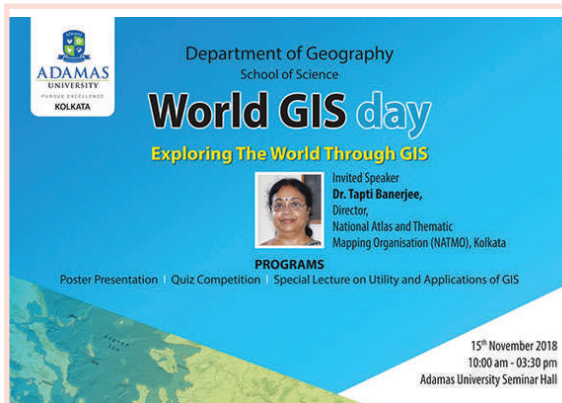
Special Lecture on Statistics
for beginners
Speaker: Dr. Baidyanath Pal,
Scientist, ISI, Kolkata



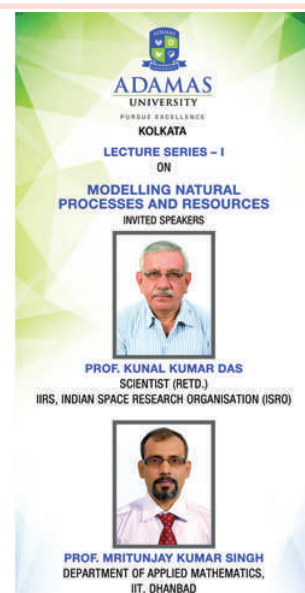
Workshop on Rad Map of Future
Geographers: Drone Technology
and Geospatial Analysis.
Speaker: Dr. Balen Basu



Special Lecture On Climate
Change And Sustainable
Development In The Ganges Delta
Speaker: Prof. Sugata Hazra



World GIS Day-
Exploring The World Through GIS
Speaker: Dr. Tapti Banerjee



Lecture Series – I jointly organized
by the Department of Geography
and Mathematics
Speakers: Prof. KK Das and
Prof. Mritunjay K. Singh

Workshop / Webinars / Training programmes

National Workshop on
GEOSPATIAL DATA ANALYSIS USING OPEN SOURCE SOFTWARE
 17th - 19th April, 2018
 - Organised By -
 Department Of Geography, School Of Science
 Adamas University
 - Eminent Speakers -

Dr. Kalyan Rudra (Chairman, WBPCB)
 Dr. G. Srinivas Rao (RISC, ISRO)
 Prof. Soumya Ghosh (CSE, IIT KGP)
 Dr. Ashis Sarkar (Dept. of Geography, Presidency College, New University)
 Prof. Milap Punia (CSRD, JNU)
 Dr. Basudeb Bhatta (CAD, CSE, Jadavpur University)
 Prof. Sunando Bandyopadhyay (Dept. of Geography, University of Calcutta)
 Dr. Ragib Sarkar (Adamas University)
 Mr. Surajit Ghosh (NIT, Durgam)
 Dr. Abira Dutta Roy (Dept. of Geography, B.Z.S. Mahila Mahavidyalaya)
 Mr. Ratnadeep Ray (Vidyaagar University/JCAD, CSE, Jadavpur University)
 Mr. Biswajit Giri (Dept. of Geography, Presidency University)
 Dr. Priyank Pravin Patel (Dept. of Geography, Presidency University)

Workshop on
 "Geospatial Data Analysis Using Open Source Software"
 Resource Persons: Dr. Kalyan Rudra, Dr. G. Srinivas Rao, Prof. Soumya K. Ghosh, Prof. Milap Punia, Prof. Ashis Sarkar, Prof. Sunando Bandyopadhyay, Dr. Basudeb Bhatta, Dr. Biswajit Giri, Dr. Priyank P. Patel, Dr. Abira Dutta Roy, Mr. Ratnadeep Ray, Mr. Surajit Ghosh

School of Science
 Presents
Market Trends and Opportunities in Environmental Science
 Date: 13th May, 2020 Time: 5:30pm

Speaker: DR. PRADIP KALBAR
 Assistant Professor, Centre for Urban Science and Engineering
 IIT Bombay, Mumbai, Maharashtra

Moderators: 1) Dr. Indrani Ghosh, 2) Dr. Prantik Banerjee
COORDINATORS: 1) Dr. Arpan Manna, 2) Dr. Namrata Ray
 For registration please contact at: auenvsc@gmail.com or auenvsc@gmail.com
 For further details please call us at: 930490508 / 8100631196 **Registration FREE**

Topic: Market Trends and Opportunities in Environmental Science
 Speaker: Dr. Pradip Kalbar, Assistant Professor, IIT, Bombay

Adamas University, School of Science, Department of Chemistry organizes a webinar on

Technology-assisted antibody-mimetic discovery: Prospect in identifying SARS-CoV-2 hits

Date: 17th May, 2020, Sunday
 Time: 3 pm to 4 pm

For registration and further details please call us at 8436994642 or 8100631196

Our Speaker: DR. ANUPAM BANDYOPADHYAY
 Assistant Professor, Department of Chemistry
 IIT Ropar, Mangal Vidya, Rupnagar, Punjab 140001

Moderators: Dr. Arpan Manna, Dr. Rupam Sen
Coordinators: Dr. Prabuddha Bhattacharya, Dr. Dipshikha Bhattacharya

Topic: Technology-assisted antibody-mimetic discovery: Project in identifying SARS-COV-2 hits
 Speaker: Prof. Anupam Bandyopadhyay, Assistant Professor, IIT, Ropar

School of Basic & Applied Sciences, Department of Chemistry is organizing a webinar

Talk of Nobel Laureate Prof. Jean-Marie Lehn
 ISIS, University of Strasbourg Institute for Advanced Study
 Date: 29th May, 2020 Time: 3 pm (Indian Time)

Topic of the Lecture: Steps Towards Life: Chemistry!

For registration contact:
 Dr. Arpan Manna, E-mail: arpan.manna@adamasuniversity.ac.in, Mob: 8436994642
 Mr. Kartik Banerjee, E-mail: kartik.banerjee@adamasuniversity.ac.in, Mob: 9874545900
 Dr. Prantik Banerjee, E-mail: prantik.banerjee@adamasuniversity.ac.in, Mob: 8100631196

Topic: Steps Towards Life: Chemistry!
 Speaker: Prof. Jean-Marie Lehn, Nobel Laureate, ISIS, University of Strasbourg Institute for Advanced Study, Strasbourg, France

Adamas University, School of Science, Department of Chemistry organizes a webinar on

CHALLENGES AND OPPORTUNITIES FOR THE SCIENTIFIC COMMUNITY IN POST-COVID-19 INDIA

Date: 20th May, 2020, Wednesday
 Time: 3 pm to 4 pm

Our Speaker: Prof. Anindya Dutta
 Professor, Department of Chemistry
 IIT Bombay, Powai, Mumbai 400 075, India

Moderators: Prof. Bimal Kumar Sarkar, Prof. Sanjib Ghosh
Coordinators: Dr. Arunassish Layek, Dr. Subhasree Banerjee

For registration and further details please call us at 8436994642 or 8100631196

Topic: Challenges and opportunities for the scientific community in post-COVID19 India
 Speaker: Prof. Anindya Dutta, Professor, IIT, Bombay

Adamas University, School of Basic & Applied Sciences, Department of Chemistry is organizing a Webinar on

PEROVSKITE NANOCRYSTALS: PHOTOLUMINESCENCE AND CHARGE CARRIER DYNAMICS

Date: 4th July, 2020, Saturday
 Time: 3 pm - 4 pm

Medium of Webinar: Zoom video meeting and YouTube Live streaming

For Registration please contact:
 Dr. Arpan Manna: +91-8436994642 and Dr. Prantik Banerjee: +91-8100631196

E-certificate will be provided for attending the Webinar

Our Speaker: PROF. ANUNAY SAMANTA
 I.C. Bose National Fellow, PRL, Kolkata-743, Professor, School of Chemistry, University of Hyderabad, Hyderabad, Telangana 500006

Convener: Prof. Sanjib Ghosh, Professor of Chemistry, Addis to the Vice-Chancellor, Adamas University
Coordinator: Prof. Bimal Kumar Sarkar, Dean, School of Basic & Applied Sciences, Adamas University

Topic: Perovskite nanocrystals: Photoluminescence and charge carrier dynamics
 Speaker: Prof. Anunay Samanta, Professor, University of Hyderabad

Adamas University, School of Science, Department of Mathematics organizes a webinar on

"Porous Structures as Windmills and Aquafarm: A Mathematical Treatment"

Date: 14th May, 2020 Time: 11:30 am

Online registration deadline: 5:00 pm, 13th May, 2020

For further details, please write us at: aditya.ghosh@adamasuniversity.ac.in
 Call us at: 7085762710

Our Speaker: Prof. Swaroop Nandan Bora
 Professor, Department of Mathematics
 IIT Guwahati, Guwahati

This webinar is free of cost. E-Certificate will be provided.

Webinar on
 "Porous Structures as Windmills and Aquafarm: A Mathematical Treatment"
 Prof. Swaroop Nandan Bora, Professor, Department of Mathematics, IIT Guwahati, Guwahati-781039, Assam

Workshop / Webinars / Training programmes



Webinar on
"Need of Mathematical Cryptography
and digital forensic in current society"
Professor Avishek Adhikari
Presidency University, Kolkata and
Mr. Niraj Agarwal, Founder and CEO,
Cyberiog Technologies



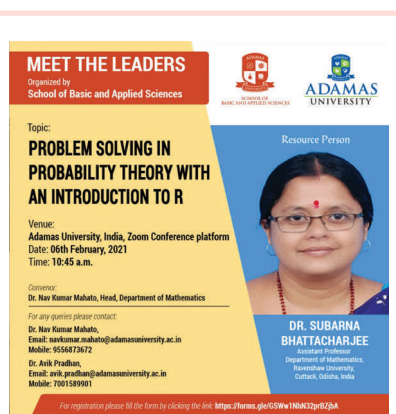
Webinar on
"The art of counting in the strange world
of infinity"
Dr. Debashish Sharma,
Assistant Professor,
Gurucharan College, Silchar



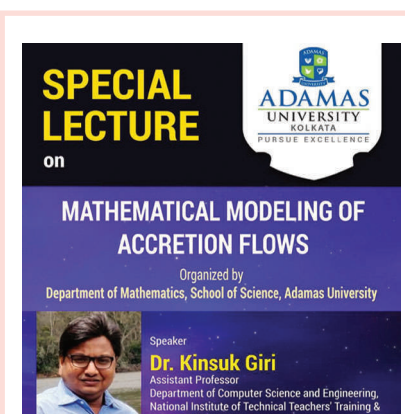
Webinar on
"Problem Based Learning"
Dr. Kinsuk Giri, Assistant Professor
Department of Computer Science and
Engineering, National Institute of
Technical Teachers' Training & Research
(NITTTR), Kolkata



Webinar on
"Practices in using Electroosmotic
Drying and Research and study
opportunities in Europe"
Prof Ing Gabriela Pavlendova and
Prof Ing Jana Sujanova, Slovak University
of Technology in Bratislava, Slovakia



Webinar on
"Problem solving in probability theory
with an introduction to R"
Dr. Subarna Bhattacharjee
Assistant Professor,
Department of Mathematics
Ravenshaw University, Cuttack,
Odisha, India

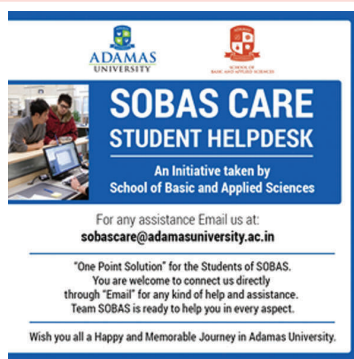


A Special Lecture on the topic
"Mathematical Modelling of Accretion
Flows" on September 18, 2019
Dr. Kinsuk Giri, Assistant Professor
Department of Computer Science and
Engineering, National Institute of
Technical Teachers' Training & Research
(NITTTR), Kolkata

New Initiatives for Students

SOBAS Care

SOBAS CARE: An initiative taken to be there beside the students in times of crisis, to lend a helping hand when they need us the most. The students can talk about any problem, any complains or any grudge, which they might feel is impeding their journey towards excellence.



SOBAS CARE
STUDENT HELPDESK
An Initiative taken by
School of Basic and Applied Sciences

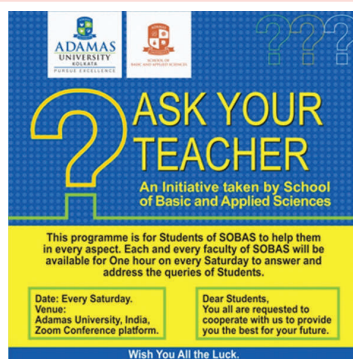
For any assistance Email us at:
sobascare@adamasuniversity.ac.in

"One Point Solution" for the Students of SOBAS.
You are welcome to connect us directly
through "Email" for any kind of help and assistance.
Team SOBAS is ready to help you in every aspect.

Wish you all a Happy and Memorable Journey in Adamas University.

Ask the Teacher

ASK YOUR TEACHER: This step has been initiated to boost the culture of an efficient, friction less and both way communication between the students and their teachers and mentors. Problem solving, clarification of queries and imparting a keen sense of inquisitiveness cannot be temporally and spatially bound by class hours and classrooms, and this initiative is a testament of this philosophy.



ASK YOUR TEACHER
An Initiative taken by School of Basic and Applied Sciences

This programme is for Students of SOBAS to help them in every aspect. Each and every faculty of SOBAS will be available for One hour on every Saturday to answer and address the queries of Students.

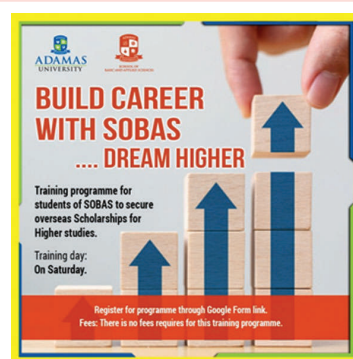
Date: Every Saturday.
Venue: Adamas University, India, Zoom Conference platform.

Dear Students,
You all are requested to cooperate with us to provide you the best for your future.

Wish You All the Luck.

Build your Career

BUILD YOUR CAREER: Specialised career-oriented skills are imparted to the students of SOBAS, to smoothen their transition to the tough competitive world outside, so that we can pen down more and more success stories for alumni of SOBAS.



BUILD CAREER WITH SOBAS
.... DREAM HIGHER

Training programme for students of SOBAS to secure overseas Scholarships for Higher studies.

Training day: On Saturday.

Register for programme through Google Form link.
Fees: There is no fees required for this training programme.

Meet the Leaders

MEET THE LEADERS: Personalities whose lives are nothing short of an inspirational essay are invited to share with the students their successes, their journey with all the challenges and how they could overcome those. These sessions have, to a great extent, motivated the students and helped the in-house mentors in moulding the students' outlooks towards life.



MEET THE LEADERS
Invited by School of Basic and Applied Sciences
National Youth Day, 12th January, 2021

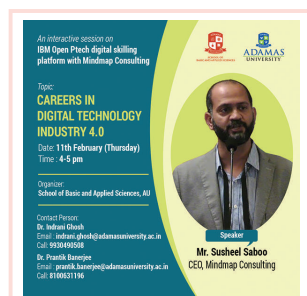
MASSIVE INTRODUCTION OF PV POWER PLANTS IN THE DISTRIBUTION LINES: PROS AND CONS
Venue: Adamas University, India, Zoom Conference platform
Date: 12th January Time: 2:30 p.m.

MEET THE LEADERS
Invited by School of Basic and Applied Sciences
Date: 11th February (Thursday) Time: 4-5 pm

MEET THE LEADERS
Invited by School of Basic and Applied Sciences
Date: 12th January Time: 2:30 p.m.

MEET THE LEADERS
Invited by School of Basic and Applied Sciences
Date: 12th January Time: 2:30 p.m.

Careers in Digital Technology



An interactive session on IBM Open Proch digital skill platform with Mindmap Consulting

Topic: **CAREERS IN DIGITAL TECHNOLOGY INDUSTRY 4.0**

Date: 11th February (Thursday) Time: 4-5 pm

Organized by School of Basic and Applied Sciences, AU

Contact Person:
Dr. Indira Ghosh
Email: indira.ghosh@adamasuniversity.ac.in
Cell: 9154950058

Dr. Prashant Bhatnagar
Email: prashant.bhatnagar@adamasuniversity.ac.in
Cell: 9154951116

Mr. Susheel Saboo
CEO, Mindmap Consulting

CAREERS IN DIGITAL TECHNOLOGY: We at SOBAS are always striving to go beyond the convention, beyond the classroom, and beyond the curriculum, when shaping the career of the students are concerned. For example, whichever discipline one might be pursuing, digital skills are an inseparable part of a professional life. This session helped us to understand the features of the various courses, how they will be helpful in increasing the skill set of a future professional, and how students from different domains of pure and applied science can utilize these tools towards a successful and meaningful academic/research/industrial career. We hope to organise many such sessions in future.

New Initiatives for Students

One of the challenges which students of higher education, specially in India, face is getting conversant in drafting a scientific article, making it suitable to be published in a reputed scientific journal. Such publications add vital academic accolades to their resumes. Here in Adamas there is a constant dedicated effort by faculty members to guide the students, especially at the PG level to document their research dissertation report in such a way that publication of a scientific research article in a reputed journal is possible.

Dissertation to Publication

1. **Ms. Salma Farhana Aman** (AY 2016-17) did her dissertation in Final Year (2018) on the topic **"Thermoelectric Studies on Helical Molecules for Efficient Energy Conversion: Effect of Transverse Electric Field"**. Her work eventually got published in the following SCI Journal.
Title: Can a helical molecule be an efficient functional element to meet the present requirement of thermoelectric efficiency?
Author: Moumita Dey, Salma Farhana Aman and Santanu K. Maiti
Journal Ref.: Europhysics Letters 126, 27003 (2019)
Indexed By: SCI, SCOPUS, INSPEC etc.
Impact Factor: 1.96

2. **Ms. Sukriti Sarkar** (AY 2017-18) did her dissertation in Final Year (2019) on the topic **"Integer Quantum Hall Effect: A Breakthrough Phenomenon"**. She presented her work in the National Conference NCFMP2020 and it got published in SCOPUS INDEXED Conference Proceeding.
Title: Energy spectra and quantized Hall conductance in a 2D lattice subjected to light irradiation
Author: Sukriti Sarkar, Moumita Dey, Santanu K. Maiti
Journal Ref.: Journal of Physics: Conference Series 1579, 012016 (2020).
doi: 10.1088/1742-6596/1579/1/012016

3. **Mr. Anupam Saha** (AY 2018-19) did his dissertation in Final Year (2020) on the topic **"Spectral Features of One-Dimensional Phononic Quasicrystals"**. He presented his work in the National Conference NCFMP2020 and it got published in SCOPUS INDEXED Conference Proceeding.
Title: Spectral features of one dimensional phononic quasicrystals
Author: Anupam Saha, Moumita Dey, Santanu K. Maiti
Journal Ref.: Journal of Physics: Conference Series 1579, 012018 (2020).
doi: 10.1088/1742-6596/1579/1/012018

4. **Mr. Abhra Mukherjee** (AY 2018-19) did his dissertation in Final Year (2020) on the topic **"Spin selective transmission through a multi-terminal Rashba ring with AAH modulation"**. He presented his work in the National Conference NCFMP2020 and it got published in SCOPUS INDEXED Conference Proceeding.
Title: Spin selective transmission through a multi-terminal Rashba ring with AAH modulation
Author: Abhra Mukherjee, Moumita Dey, Santanu K. Maiti
Journal Ref.: Journal of Physics: Conference Series 1579, 012017 (2020).
doi: 10.1088/1742-6596/1579/1/012017

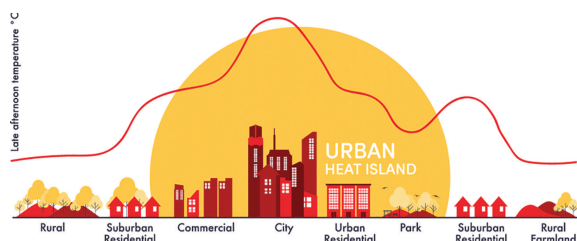
Findings by SOBAS Researchers

Research is careful or diligent search, studious inquiry, or examination, especially, investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws. It is therefore evident that being an active researcher is a pre-requisite of being a successful teacher especially at the graduation and post-graduation levels. Our faculty members at SOBAS have made some valuable additions to the existing academic resources through their innovative and singular research ideas. Some of them are enlisted below:

Degrading Bhagirathi-Hoogli River as a result of irresponsible behaviour

- Different human activities along the river of Bhagirathi -Hooghly damaging the ecological status of the river.
- The study by Dr. Rajib Sarkar and his team in Adamas University, focused on the different physical and chemical properties of water on selected location in between Katwa to Nabawip.

Das S & Sarkar R (2020) Monitoring and evaluating the spatiotemporal variations of the water quality of a stretch of the Bhagirathi-Hugli River, West Bengal, India, using geospatial technology and integrated statistical methods. *Environmental science and Pollution Research*, <https://doi.org/10.1007/s11356-020-11655-6>, Springer Nature, ISSN No: 1614-7499



Urban heat island in Barasat!

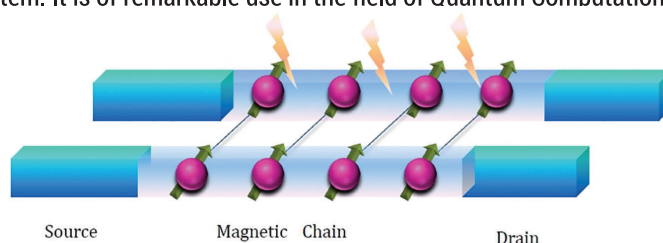
- Dr. Kasturi Mukherjee has found sharp temperature difference between urban area and rural periphery in Barasat during summer which is called Urban Heat Island. This difference is mainly due to surface configuration and thermal inertia.
- Urban Heat Island increases in both magnitude and spatial extent due to continuous expansion of urban surfaces and displacement of vegetation, water bodies etc.
- The spatially compact, connected, homogeneous urban structures of the older areas help maintain warmer urban temperatures, as opposed to the new scatted developments in Barasat.

Kasturi Mukherjee and Pannalal Das, 2018, Modelling the Relationship between Urban Growth Modes and the Thermal Environment-A Case Study of the Barasat Municipality, West Bengal, *Journal of Geography, Environment and Earth Science International*, pp 1-19.

A big leap towards Quantum computing and spintronics

- Dr. Moumita Dey and her research group in Adamas University has devised a methodology through which spin selectivity can be controlled by low-frequency LASER radiation in a magnetic system. It is of remarkable use in the field of Quantum Computation and Spintronics.

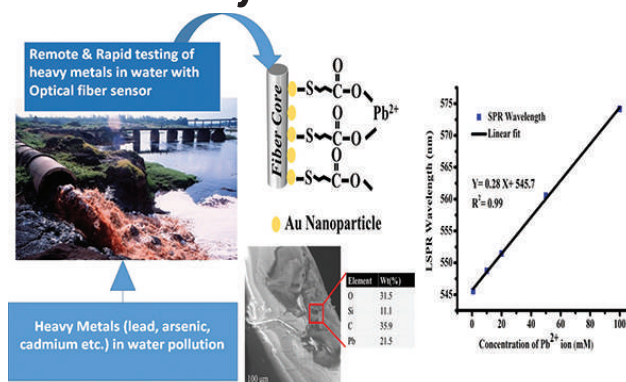
Sarkar, M., Dey, M., Maiti, S.K. and Sil, S., 2020. Engineering spin polarization in a driven multistranded magnetic quantum network. *Physical Review B*, 102(19), p.195435.



Findings by SOBAS Researchers

Innovations in the field of nanoparticle-based heavy metal sensor

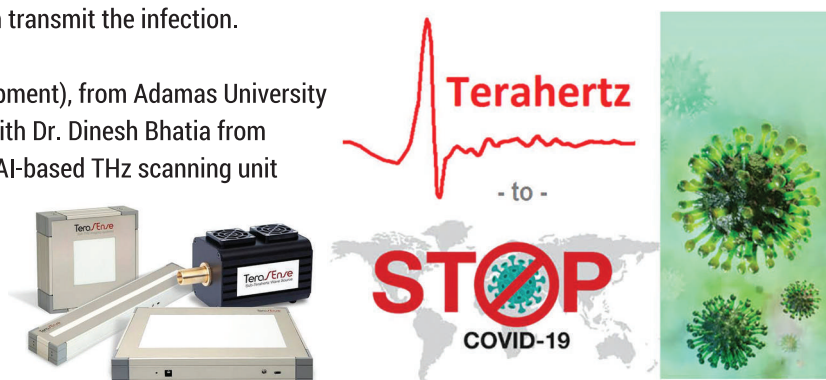
- Dr. Papiya Dhara and her research team in North-24-Parganas of West Bengal. Soil, water, and chevon samples were collected from targeted areas over a span of six months long and were analyzed for the presence of lead, arsenic, iron, and zinc.
- Rapid testing of Lead, Mercury, Arsenic, etc. metal with this sensor could control the spreading of diseases due to heavy metal concentration.
- Utilizing the optical fiber sensor, the water purification industry near Barasat, West Bengal will be benefitted.



Terahertz (THz) imaging technology: A promising tool to fight COVID-19

It has been claimed that unique absorption fingerprint of THz radiation in affected and healthy lungs, in the early stage of infection when the patient seems to be asymptomatic, yet can transmit the infection.

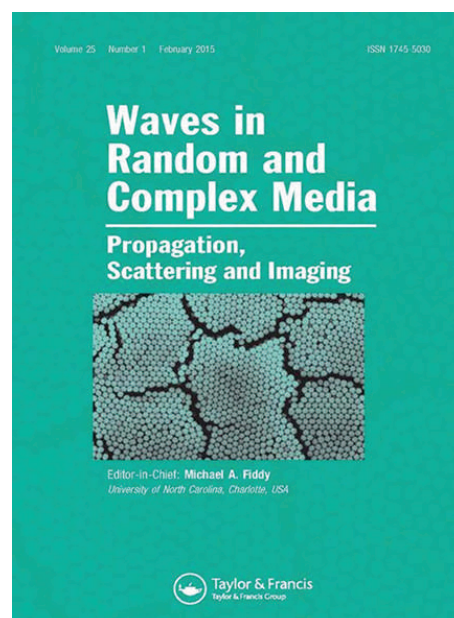
- Dr. Moumita Mukherjee, Dean (Research & Development), from Adamas University is heading a collaborative research group along with Dr. Dinesh Bhatia from North Eastern Hill University towards developing AI-based THz scanning unit for accurate and early detection of COVID-19 infection in prospective patient, to avoid existing thermal detection techniques.
- The focus of Dr. Mukherjee is to develop the design the device and its implementation.



Introducing a efficient approach towards understanding heat transfer in 3-dimensional half space:

- Dr. Sutapa Santra in Adamas University has introduced an efficient approach of using memory dependent derivative instead of fractional calculus is more efficient due to its memory effect.
- The effect of kernel function involved in MDD and the nature of parameters involved in 3D thermo-diffusive medium subject to rectangular thermal pulse in various directions shows extensive nature on stress component.
- The lagging behavior in a thermodiffusive space with given thermal and potential shock can be derived.
- In absence of thermoelastic diffusion, the results agree with existing literatures.

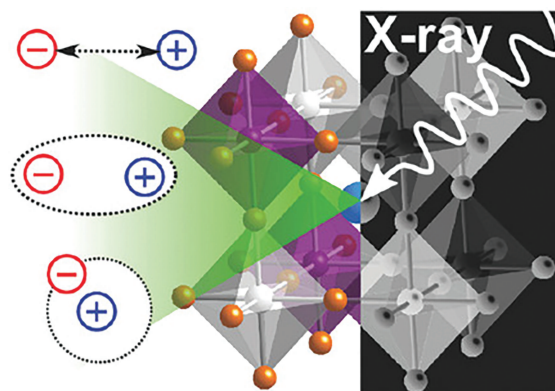
Santra, S. and Lahiri, A., 2021. Solution of three-dimensional generalized thermodiffusive elastic half-space with phase lag in the presence of chemical potential shock and thermal pulse. *Waves in Random and Complex Media*, pp. 1-15.



Findings by SOBAS Researchers

Understanding the sensitive single crystal X-ray detection at low temperature:

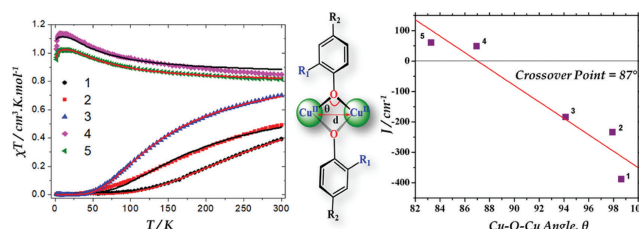
- Double-perovskite Cs₂AgBiBr₆ single crystals through a combination of steady-state and time-resolved photophysical studies can contribute to the sensitive detection of X-rays, via the direct conversion of high energy photons into electrical signals at low-temperature enhancements.
- Dr. Subhasree Banerjee from Adamas University has published these important finding in Advanced materials journal as an significant part of an international collaborative research group.



Steele, J.A., Pan, W., Martin, C., Keshavarz, M., Debroye, E., Yuan, H., Banerjee, S., Fron, E., Jonckheere, D., Kim, C.W. and Baekelant, W., 2018. Photophysical pathways in highly sensitive Cs₂AgBiBr₆ double-perovskite single-crystal X-ray detectors. *Advanced Materials*, 30(46), p.1804450.

Comprehensive explanation for the ferro-magnetic transition in Bis-(?-phenoxido)dicopper(II) Complexes:

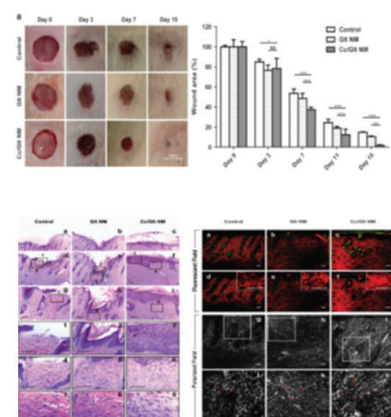
- Dr. Kisholoy Bhattacharya from Adamas University has been an integral part of the study that investigated antiferromagnetically and ferromagnetically spin-coupled complexes and, consequently, derive a precise magneto-structural correlation in bis-(?-phenoxido)di-copper species.



Mondal, D., Majee, M.C., Bhattacharya, K., Long, J., Larionova, J., Khusniyarov, M.M. and Chaudhury, M., 2019. Crossover from Antiferromagnetic to Ferromagnetic Exchange Coupling in a New Family of Bis-(?-phenoxido) dicopper (II) Complexes: A Comprehensive Magneto-Structural Correlation by Experimental and Theoretical Study. *ACS omega*, 4(6), pp.10558-10570.

Development cucurmin-loaded multicomponent hydrogel for scarless and accelerated wound repair:

- Dr. Dipshikha Bhattacharya from Adamas University along with her collaborators have developed a cerium oxide and curcumin loaded hydrogel for wound dressing medium, test in vivo, in rat model.
- The researchers have proposed a synergistic signaling by the released curcumin during wound healing .
- Curcumin activates Wnt signaling pathway, thereby mobilizing wound site fibroblasts.
- Persistent inhibition of inflammatory responses through the downregulation of MCP-1 protein by curcumin.
- This curcumin/gelatin-blended NM-based hydrogel is a candidate for modern wound care therapy for efficient and faster regenerative changes in wound healing.



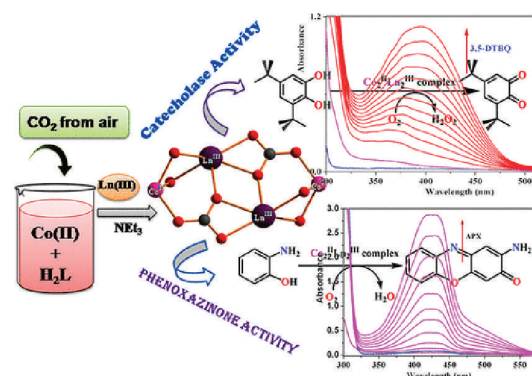
Bhattacharya, D., Tiwari, R., Bhatia, T., Purohit, M.P., Pal, A., Jagdale, P., Mudiam, M.K.R., Chaudhari, B.P., Shukla, Y., Ansari, K.M. and Kumar, A., 2019. Accelerated and scarless wound repair by a multicomponent hydrogel through simultaneous activation of multiple pathways. *Drug delivery and translational research*, 9(6), pp.1143-1158.

Findings by SOBAS Researchers

Heterometallic Co(II)-Ln(III) complexes for atmospheric CO₂ fixation and enhanced Catalytic Oxidase Activities

- Dr. Rupam Sen from Admas University and his collaborators have demonstrated the development of heterometallic (3d⁷4f) coordination complexes with interesting structural features, catalytic behaviors, and magnetic properties..
- Isothermal magnetization measurements provided a signature of anisotropy in the complexes that provoked the AC susceptibility measurements, which confirmed the slow relaxation of magnetization behavior in the complexes.

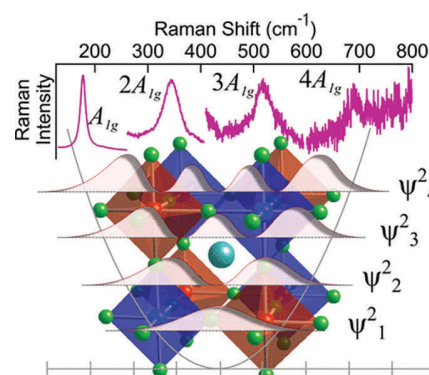
Das, A., Goswami, S., Sen, R. and Ghosh, A., 2019. Inclusion of Ln (III) in the Complexes of Co (II) with a Mannich Base Ligand: Development of Atmospheric CO₂ Fixation and Enhancement of Catalytic Oxidase Activities. *Inorganic chemistry*, 58(9), pp.5787-5798.



Analyzing the deep conduction band resonance in metal halide double perovskite:

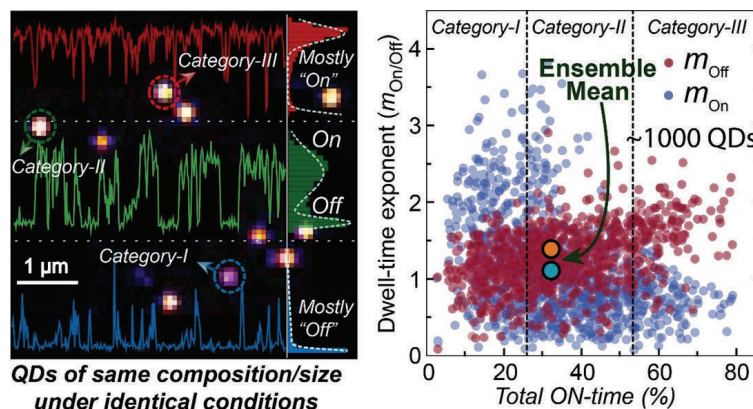
- Dr. Subhasree Banerjee from Adamas University along with her international collaborators analyzed the thermal annealing treatment of Cs₂AgBiBr₆ crystal.
- The study suggest that localized electrostatic fluctuations at either metal B-site (caused by structural disorder) act to enhance the carrier-lattice coupling, highlighting the fundamentally different nature of the two "single" and "double" perovskite materials branches.

Steele, J.A., Puech, P., Keshavarz, M., Yang, R., Banerjee, S., Debroye, E., Kim, C.W., Yuan, H., Heo, N.H., Vanacken, J. and Walsh, A., 2018. Giant electron-phonon coupling and deep conduction band resonance in metal halide double perovskite. *ACS nano*, 12(8), pp.8081-8090.



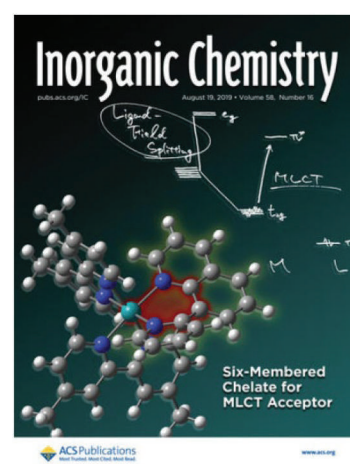
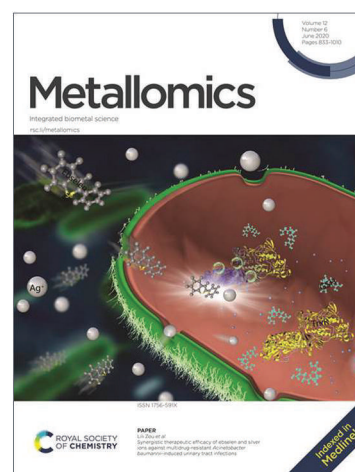
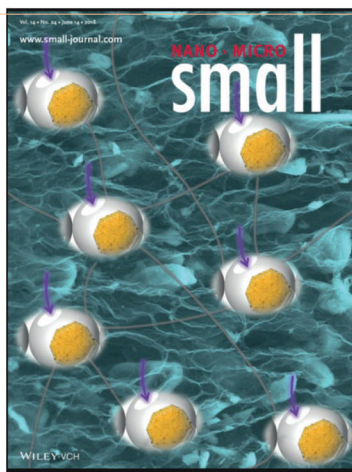
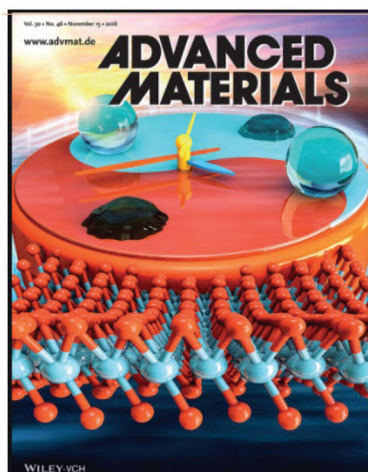
Investigation of the blinking trajectories for the various QDs in the ensemble

- Dr. Arunasish Layek from Adamas University and his collaborators found a remarkable variation in blinking parameters (mOn/Off) amongst as well as within subensembles, which implies multiple blinking mechanisms being operational amongst various QDs.
- The researchers also provided evidence for the lack of ergodicity, as they further showed the mOn/Off obtained via cumulative single-particle P(tOn/Off) is distinct from the weighted mean value of all single-particle mOn/Off.



Mukherjee, A., Ray, K.K., Phadnis, C., Layek, A., Bera, S. and Chowdhury, A., 2019. Insights on heterogeneity in blinking mechanisms and non-ergodicity using sub-ensemble statistical analysis of single quantum-dots. *The Journal of chemical physics*, 151(8), p.084701.

Published research work in journals of high impact



Team SOBAS

Sl No	Name of the Member	Designation	Department	Contact No.	E-mail ID.
1	Dr. Jitendra Kumar Pandey	Dean	Chemistry	7579216817	jitendra.pandey@adamasuniversity.ac.in
2	Prof. Dr. Bimal Kumar Sarkar	Professor	Physics	8336951815	bimal.sarkar@adamasuniversity.ac.in
3	Prof. Moumita Mukherjee	Professor and Dean R&D	Physics	9836864228	moumita.mukherjee@adamasuniversity.ac.in
4	Dr. Moumita Dey	Associate Professor & HOD	Physics	9830224321	moumita.dey@adamasuniversity.ac.in
5	Dr. Swarup Kumar Neogi	Assistant Professor	Physics	9830826794	swarup.k.neogi@adamasuniversity.ac.in
6	Dr. Diptasikha Das	Assistant Professor	Physics	9433649874	diptasikha.das@adamasuniversity.ac.in
7	Dr. Papiya Dhara	Assistant Professor	Physics	7759918851	papiya.dhara@adamasuniversity.ac.in
8	Dr. Aparajita Bhattacharya	Professor	Physics	9831450455	aparajita.bhattacharya@adamasuniversity.ac.in
9	Dr. Pradip Kumar Dutta	Professor	Physics	9903137069	pradipkumar.dutta@adamasuniversity.ac.in
10	Dr. Tamal Kumar Mukherjee	Associate Professor	Physics	9830265452	tamalkumar.mukherjee@adamasuniversity.ac.in
11	Dr. Satarupa Biswas	Assistant Professor	Physics	9804506501	satarupa.biswas@adamasuniversity.ac.in
12	Dr. Arpan Manna	Assistant Professor & HOD	Chemistry	8436994642	arpan.manna@adamasuniversity.ac.in
13	Prof. Dr. Sanjib Ghosh	Professor Emeritus	Chemistry	9836940620	sanjib.ghosh@adamasuniversity.ac.in
14	Dr. Rupam Sen	Associate Professor	Chemistry	9433441735; 7003516040	rupam.sen@adamasuniversity.ac.in
15	Dr. Arunashish Layek	Assistant Professor	Chemistry	8697991571	arunasish.layek@adamasuniversity.ac.in
16	Dr. Dipsikha Bhattacharya	Assistant Professor	Chemistry	8910552936	dipsikha.bhattacharya@adamasuniversity.ac.in
17	Dr. Kisholoy Bhattacharya	Assistant Professor	Chemistry	8777846727, 7044085370	kisholoy.bhattacharya@adamasuniversity.ac.in
18	Dr. Debapratim Das	Assistant Professor	Chemistry	8116360011	debapratim1.das@adamasuniversity.ac.in
19	Dr. Indrani Ghosh	Assistant Professor	Chemistry (Environmental Science)	9930490508	indrani.ghosh@adamasuniversity.ac.in
20	Dr. Prantik Banerjee	Assistant Professor	Chemistry (Environmental Science)	8100631196	prantik.banerjee@adamasuniversity.ac.in
21	Dr. Tanmoy Kumar Dey	Assistant Professor	Chemistry (Environmental Science)	9874047549	tanmoy1.dey@adamasuniversity.ac.in
22	Dr. Nav Kumar Mahato	Associate Professor & HOD	Mathematics	9556873672	navkumar.mahato@adamasuniversity.ac.in
23	Dr. Aditya Ghosh	Associate Professor	Mathematics	9123050476; 7086762710	aditya.ghosh@adamasuniversity.ac.in

Team SOBAS

Sl No	Name of the Member	Designation	Department	Contact No.	E-mail ID.
24	Dr. Santanu Biswas	Assistant Professor	Mathematics	9433866175	santanu.biswas@adamasuniversity.ac.in
25	Dr. Satyajit Das	Assistant Professor	Mathematics	8697506423, 8250224354	satyajit.das@adamasuniversity.ac.in
26	Dr. Vaskar Sarkar	Assistant Professor	Mathematics	9474041343	vaskar.sarkar@adamasuniversity.ac.in
27	Dr. Supriyo Majumder	Assistant Professor	Mathematics	8013902321, 7003691056	supriyo.mazumder@adamasuniversity.ac.in
28	Dr. Sudip Jana	Assistant Professor	Mathematics	9775576844	sudip.jana@adamasuniversity.ac.in
29	Dr. Avik Pradhan	Assistant Professor	Mathematics	8768638769	avik.pradhan@adamasuniversity.ac.in
30	Dr. Monimala Nej	Assistant Professor	Mathematics	9800670039 /8343978757	monimala.nej@adamasuniversity.ac.in
31	Dr. Sutapa Santra	Assistant Professor	Mathematics	9123052682	sutapa.santra@adamasuniversity.ac.in
32	Dr. Arindam Kundu	Assistant Professor	Mathematics	8918786449	arindam1.kundu@adamasuniversity.ac.in
33	Dr. Sumit Som	Assistant Professor	Mathematics	8697506423	sumit1.som@adamasuniversity.ac.in
34	Dr. Kasturi Mukherjee	Associate Professor & HOD	Geography	9874354990	kasturi.mukherjee@adamasuniversity.ac.in
35	Dr. Anu Rai	Assistant Professor	Geography	9674252647	anu.raai@adamasuniversity.ac.in
36	Dr. Rajib Sarkar	Assistant Professor	Geography	7980312683	rajob.sarkar@adamasuniversity.ac.in
37	Dr. Tuhin Bhadra	Assistant Professor	Geography	8420064480 /9477084264	tuhin.bhadra@adamasuniversity.ac.in
38	Mr. Mayukh Sadhukhan	Technical Assistant	Physics	9038615800	Mayukh.Sadhukhan@adamasuniversity.ac.in
39	Mr. Biswajit Das	Technical Assistant	Physics	9836865410	biswajit.das.la@adamasuniversity.ac.in
40	Ms. Dwitiya Mondal	Lab Assistant	Chemistry	9831089153	dwitiya.mondal@adamasuniversity.ac.in
41	Ms. Manisha Baral	Lab Assistant	Geography	9903707353	manisha.baral@adamasuniversity.ac.in
42	Mr. Somnath Chakaraborty	Lab Assistant	Chemistry	6289072403	somnath.chakaraborty@adamasuniversity.ac.in
43	Mr. Suman Chatterjee	Lab Assistant	Geography	9123897924	suman1.chatterjee@adamasuniversity.ac.in
44	Ms. Susmita Roy Choudhury	Executive Assistant	SOBAS	8336959269	susmita.roychoudhury@riceindia.org
45	Mr. Ershad Ali	Office Attendent	SOBAS	7980004055	ershadali445@gmail.com

SOBAS STAR (Achievement of Students)



● Mr. Sneharka Poria from Department of Chemistry has been awarded with silver medal for securing second highest marks in SOBAS

● Mr. Soumyadeep Ghosh, M.Sc. Physics (2018-19) have completed 41 courses on different topics (39 certificate courses and 2 non-certificate courses) on online learning platform Coursera (Adamas University on Coursera) in 2020.

● Mr. Anupam Saha, B.Sc. Physics (2018-19) have completed 10 courses on the Online Learning platform Coursera (Adamas University on Coursera) in 2020.



● Mr. Sourav Rudra, B.Sc. Physics (2019-20) have completed 8 courses on the Online Learning platform Coursera (Adamas University on Coursera) in 2020.

● Ms. Ishani Mukherjee, M.Sc. Physics (2019-20) have completed 8 courses on the Online Learning platform Coursera (Adamas University on Coursera) in 2020.



● Mr. Subham Saha (B.Sc. (Hons.), 2015-16 AY) got chance in M.S. plus Ph.D. program in Cardiff University, UK and University of Sussex, UK. Presently pursuing MS Astronomy in University of Sussex.

● Ms. Sinjini Sengupta (M.Sc. In Physics, 2015-16 AY) presently works at American Oncology Institute as a Junior Medical Physicist.



● Ms. Dabosmita Paul (M.Sc. In Physics, 2015-16 AY) got chance in Ph.D. in Mendel University, Czech Republic. Presently pursuing her PhD.



● Mr. Rakesh Mahato from Department of Chemistry got selected for Integrated PhD at TIFR, Hyderabad.

● Ms. Srasta Mukherjee, Mr. Sneharka Poria and Mr. Rakesh Mahato, Post Graduate and Under Graduate Students, respectively, Department of Chemistry, School of Science, Adamas University won the second prize in the student's poster presentation in a two-day national seminar on 'Modern Research Trends in Chemistry' (MRTC-2019) organised by St. Xavier's College, Kolkata in association with the Royal Society of Chemistry (RSC), Eastern India Section during 22-23 February 2019.

SOBAS STAR (Achievement of Students)

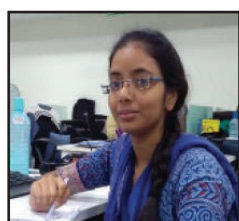
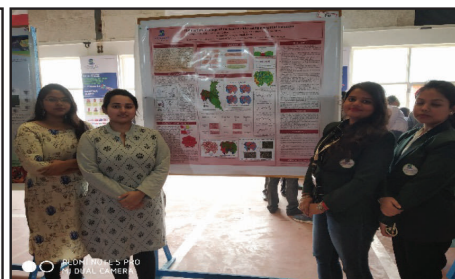


- Ms. Anamika Bhandari, graduate student from Department of Chemistry cracked JAM'2020
- Mr. Rabiul Islam cracked admission test at Jadavpur University, Kolkata for admission in M.Sc. in Chemistry
- Mr. Amarjyoti Mondal and Mr. Subham Chowdhury from Department of Chemistry cracked JAM'2018
- Mr. Abhishek Mondal and Mr. Pranay Das, graduate students from Department of Chemistry got admission at CIPET, Chennai.

- The M.Sc. students of the Department of Geography won the 1st prize in the Presentation competition "Environmental change- you can make a difference" at Adamas University, 2016



- Students of the Department of Geography have secured both the 1st and 2nd rank in the 2nd International Conference on Current Trends in Higher Education, TechX 19 - An Exhibition of Science and Technology organized by Adamas University, 2019



- Nandita Deb, M.Sc. 2017, Awarded best paper in Geospatial Conclave, Jadavpur University, 2020

- Ms. Moushaki Barik (M.Sc. in Mathematics, 2015-16 AY) presently working as a Content Developer in LearningMate Pvt Ltd

- Mr. Arkaprabha Mazumder (B.Sc. in Mathematics, 2015-16 AY) presently working as Assistant Software Engineer-Trainee in Tata Consultancy Service (TCS)

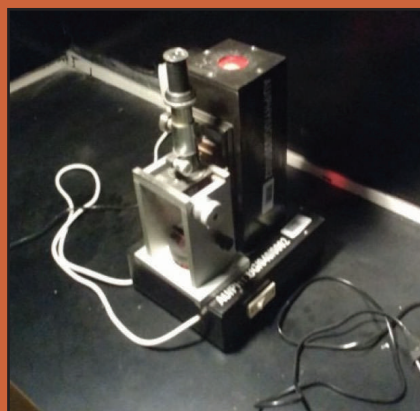


- Mr. Sourav Ghosh (B.Sc. in Mathematics, 2016-17 AY) presently pursuing M.Sc. in Applied Mathematics from Visva-Bharati University (A central University), Santiniketan, West Bengal.

Central Instrumentation Centre

State of the art instruments not only enable new discoveries but help to make the analysis, drawing of inference and propagation of knowledge more efficient. Modern sophisticated instruments are important because they catalyse the exploration of unknown phenomena with more ease, precision and speed.

Instrument Optics Lab

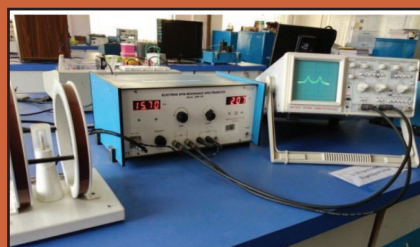
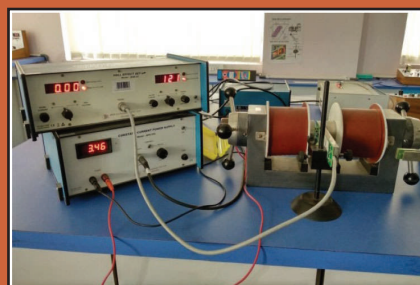


Working principle

Determination of e/m value of an electron: Using this instrument we can measure the ratio of the charge of an electron with the mass of that.

Newton's ring experiment: Using this setup we can measure the wavelength of the given source. This experiment is based on the "interference phenomenon" of the light.

Instrument Advance Lab



Working principle

Determination of Hall effect:

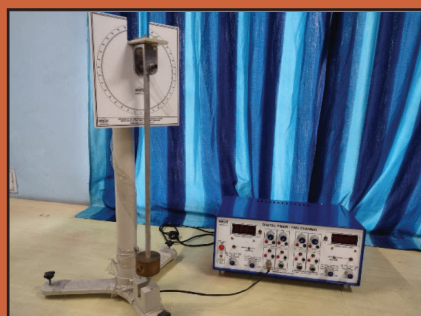
The Hall effect is the production of a voltage difference (the Hall voltage) across an electrical conductor, transverse to an electric current in the conductor and to an applied magnetic field perpendicular to the current.

Electron Spin Resonance spectroscopy:

The electron spin resonance is a very sensitive technique and can be applied in solid state physics and chemistry to investigate the paramagnetic ions in crystals, unpaired electron in semiconductors and organic free radicals, color centers and radiation damage center, ferromagnetic and antiferromagnetic materials. This is excellent experiment for demonstration of quantum mechanical phenomena in solids.

Central Instrumentation Centre

Instrument General Physics Lab



Working principle

Compound Pendulum: A compound pendulum has an extended mass, like a swinging bar, and is free to oscillate about a horizontal axis. A compound pendulum represents a real object that is swinging about a point other than its center of gravity.

Determination of Thermo e.m.f. using a Thermocouple: A thermo EMF(E) arises when two metal junctions are maintained at different temperatures. Thermo emf is developed by keeping one junction at 0°C. and varies with temperature.

Instrument Medical Physics Lab



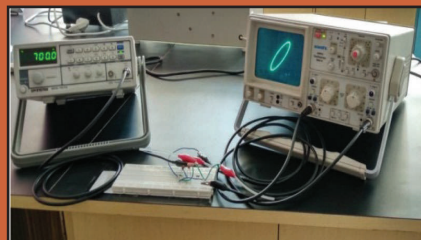
Working principle

ECG setup: This instrument is used to show patients heart rhythm and electrical activity as a graph displayed electronically or printed on paper.

SpO2: SpO₂, also known as oxygen saturation, is a measure of the amount of oxygen-carrying hemoglobin in the blood relative to the amount of hemoglobin not carrying oxygen. The body needs there to be a certain level of oxygen in the blood or it will not function as efficiently.

Central Instrumentation Centre

Instrument Electronics Lab

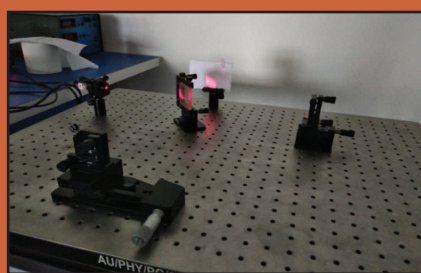


Working principle

Lead- Lag network: The lead compensator provides phase lead at high frequencies. This shifts the root locus to the left, which enhances the responsiveness and stability of the system. The lag compensator provides phase lag at low frequencies which reduces the steady state error.

Wien bridge oscillator: A Wien bridge oscillator is a type of electronic oscillator that generates sine waves. It can generate a large range of frequencies. The oscillator is based on a bridge circuit for the measurement of impedances. The bridge comprises four resistors and two capacitors.

Instrument LASER and Fiber Optics Lab



Working principle

Optical fiber experiment: Using this setup we can measure several things like "Numerical Aperture" , "Bending loss" and many more of an optical fiber.

Michelson interferometer: Michelson interferometer employs the same principle of splitting a laser beam and inserting the optical path difference between the arms. Both waves interfere at a coupler.

Instrument Thin Film Vacuum Coating Unit



Working principle

This apparatus is used for metallic deposition (like silver, copper, zinc etc.) in a substrate.

Central Instrumentation Centre

Instrument Time-correlated single photon counting



Working principle

Time-correlated single photon counting (TCSPC) is a common technique to measure fluorescence decays in the time domain. In principle, single photon events are detected and their time of arrival is correlated to the laser pulse, which was used for excitation of the sample.

Instrument Gas Chromatography



Working principle

Gas Chromatography is a technique applied for separation, identification and quantification of components of a mixture of organic compounds by selective partitioning between the stationary phase and mobile phase inside a column followed by sequential elution of separated components.

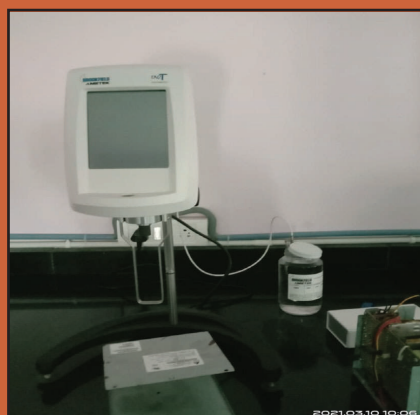
Instrument Photocatalytic Reactor



Working principle

Photocatalytic Reactor mostly used for degrading the contaminants in aqueous solutions, manufacturing of Aflatoxin and enhanced detection. It also used for contaminant removal from the air, wastewater treatment, and water splitting.

Instrument Rheometer



Working principle

This Rheometer use the principle of 'rotational viscometry', i.e. their measurement of product viscosity is based upon immersing a specifically selected spindle within a sample of the product followed by measurement of the torque required to rotate the spindle at a set speed whilst immersed within the product sample

Central Instrumentation Centre

Instrument Steady State Fluorimeter with temperature controller.



Working principle

Steady State Fluorimeter analyzes fluorescence, a type of luminescence caused by photons exciting a molecule, raising it to an electronic excited state, from a molecule based on its fluorescent properties.

Instrument Stereo- microscope



Working principle

Stereo microscope is used during evaluation of crystallization experiments for distinguishing between amorphous and crystalline specimens.

Instrument UV-Visible spectrophotometer (double beam)



Working principle

UV-Visible Spectrophotometer works on the absorption of ultraviolet light or visible light by chemical compounds, which results in the production of distinct spectra.

Instrument Current meter



Working principle

It is used with water current sensor for determining velocities of flowing water in open channels and streams. Revolutions and Time is displayed on the three & half digit LCD display. Two terminals to connect the current meter sensor are provided on the front panel.

Central Instrumentation Centre

Instrument Air sampler



Working principle

This instrument is primarily used for measuring concentration of suspended particulate matter in atmospheric air.

Instrument Echo-sounder



Working principle

It is a type of sonar used to determine the depth of water by transmitting acoustic waves into water. The time interval between emission and return of a pulse is recorded, which is used to determine the depth of water along with the speed of sound in water at the time.

Instrument Multi-Gas Detector

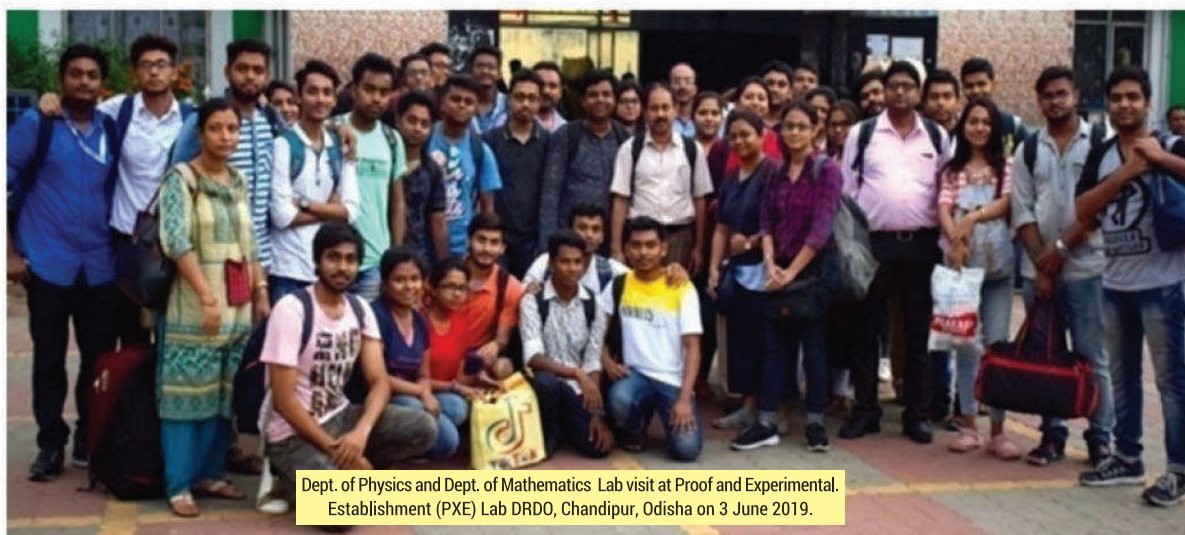


Working principle

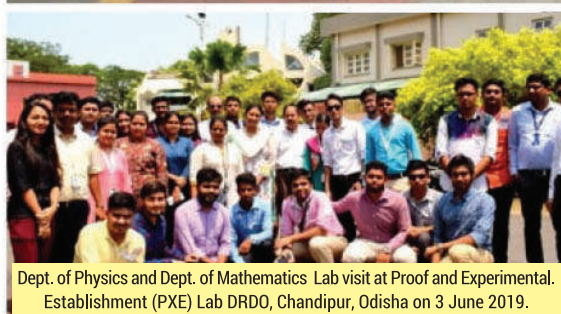
It is the most advanced portable chemical detector with a broad PID sensor range in its class and the versatility to support 25 intelligent interchangeable sensor options (such as PID, NDIR for combustibles and CO₂, ammonia, chlorine, formaldehyde, and phosphine) to fully meet the monitoring needs in a variety of applications, including industrial hygiene, personal protection, leak detection, and HazMat response.

Field/industry visits and excursions

Going beyond the classroom pedagogy is a pre-requisite for real world learning. Students are exposed to new experiences and can increase interest and engagement in science regardless of prior interest in a topic. This also results in affective gains such as more positive feelings toward the subject and these experiences that can be recalled and useful long after a visit and are often the moments to cherish in the days to come.



Dept. of Physics and Dept. of Mathematics Lab visit at Proof and Experimental Establishment (PXE) Lab DRDO, Chandipur, Odisha on 3 June 2019.



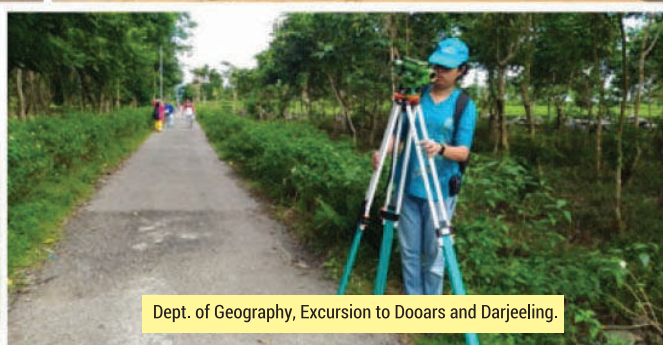
Dept. of Physics and Dept. of Mathematics Lab visit at Proof and Experimental Establishment (PXE) Lab DRDO, Chandipur, Odisha on 3 June 2019.



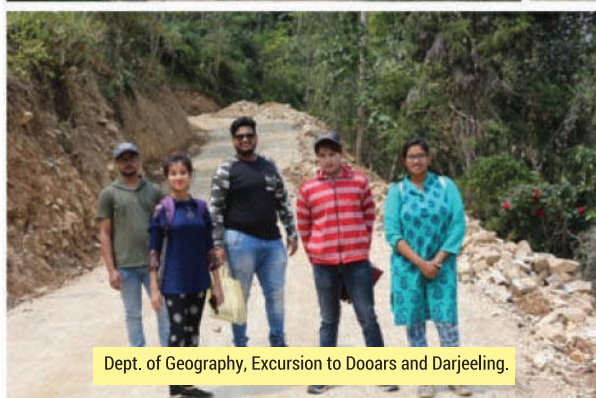
Dept. of Geography, Excursion to Kerala, February 2018



M.Sc. Students of Environmental Science, Field Visit, East Kolkata Wetlands and Rajarhat, February, 2021.



Dept. of Geography, Excursion to Dooars and Darjeeling.



Dept. of Geography, Excursion to Dooars and Darjeeling.



Visit to the River Research Institute, Nadia

Life beyond academics

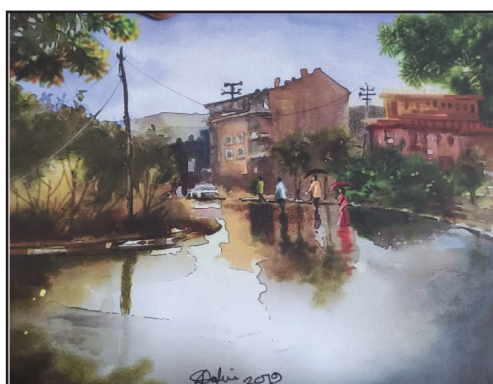
Life beyond academics brings us joy and enriches our lives. It gives us something fun to do during our leisure time and affords us the opportunity to learn new skills. We are extremely fortunate to have so many different options out there today, through which our beloved students can showcase their talents.



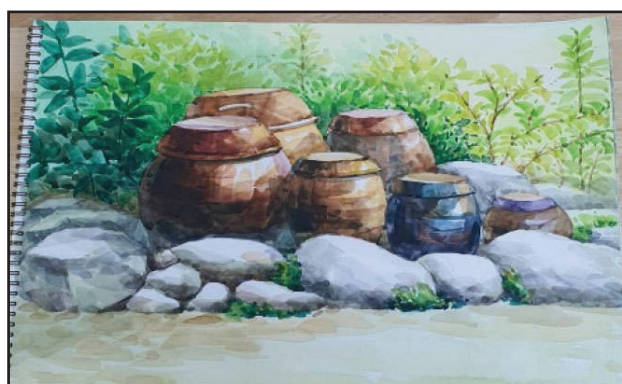
Sketch by Arkaprava Sarkar,
Dept. of Physics



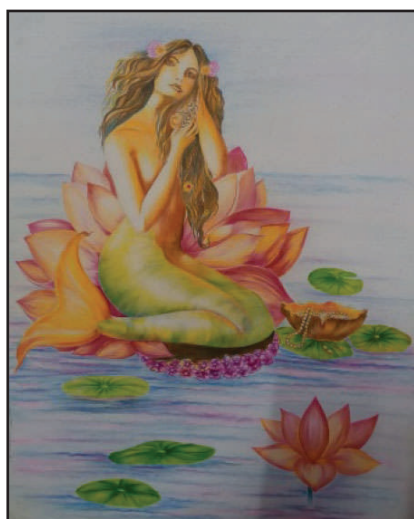
Painted by Arpan Dolui,
Dept. of Chemistry



Painted by Arpan Dolui,
Dept. of Chemistry



Painted by Manolina Roy,
Dept. of Physics

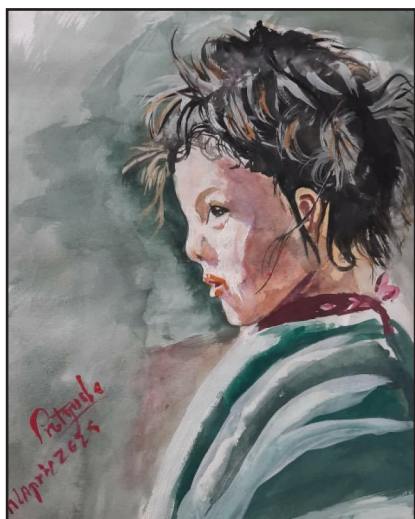


Painted by Sangita Das,
Dept. of Geography



Painted by Triasha Chakrabarty,
Dept. of Geography

Life beyond academics



Painted by Protyusha Banerjee,
Dept. of Physics



Embossed art on ceramics by Manolina Roy,
Dept. of Physics



Glass painting by Manolina Roy,
Dept. of Physics



Photographed by Raka Hazra,
Dept. of Geography



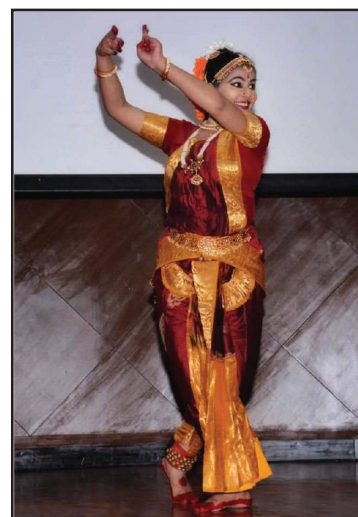
Photographed by Rubesh Mallik,
Dept. of Geography



Photographed by Rubesh Mallik,
Dept. of Geography

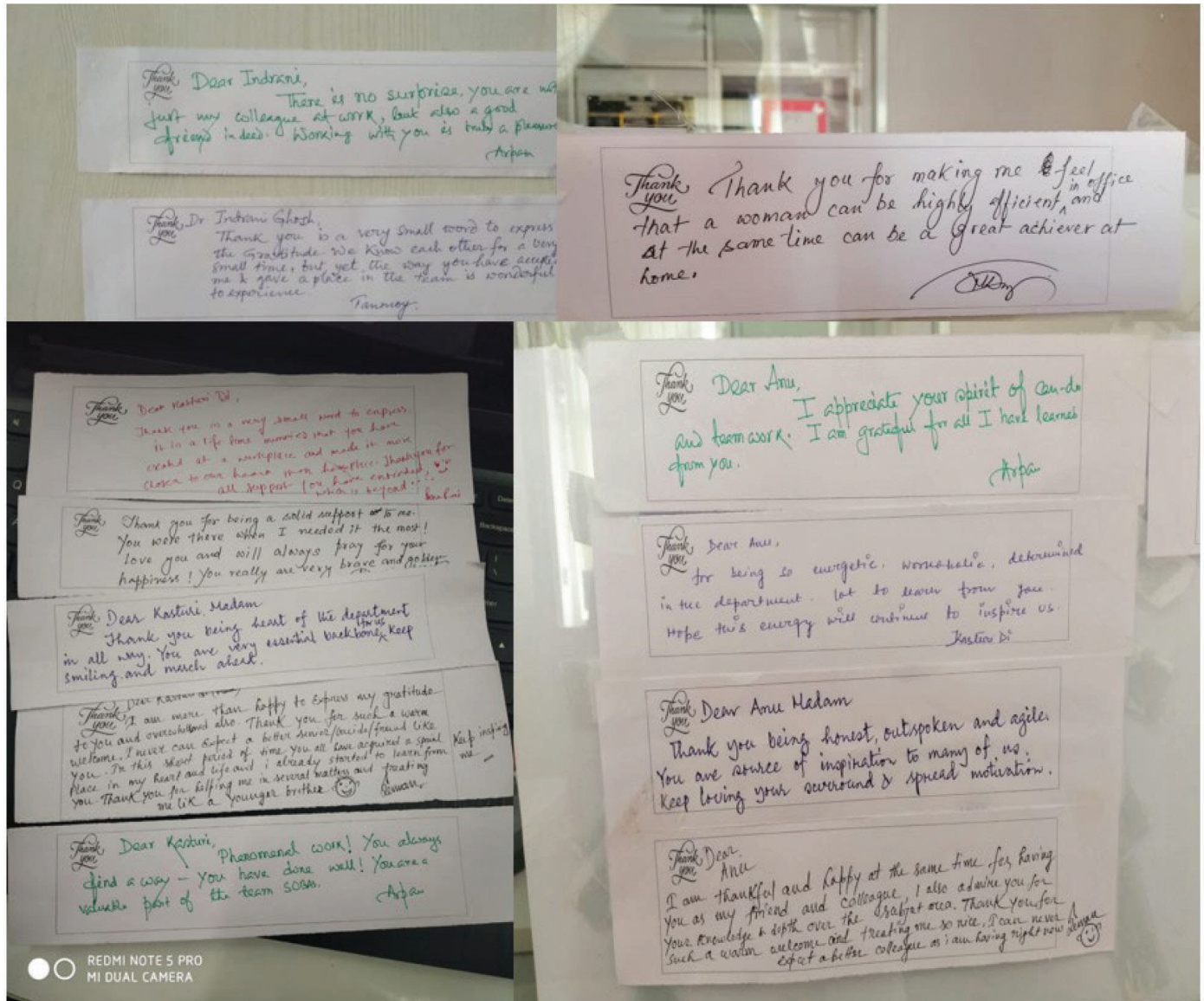


Mandala art by Shabnam Banu,
Dept. of Geography



Koushani Roy,
Dept. of Mathematics

Thank You



Snippets from the 'Thank You' drive for team building. Each colleague whole heartedly thanked each other for being their like a true friend during all perils.

Life at SOBAS



Life of faculty members of SOBAS beyond the classroom

Programmes offered at School of Basic and Applied Sciences, Adamas University

DEPARTMENT OF PHYSICS

B.Sc. (Hons) in Physics
M.Sc. in Physics
M.Sc. (Tech) in Medical Physics and Instrumentation
Ph.D. in Physics

DEPARTMENT OF CHEMISTRY

B.Sc. (Hons) in Chemistry
M.Sc. in Chemistry
B.Sc. (Hons) in Environmental Science
M.Sc. in Environmental Science
Ph.D. in Chemistry

DEPARTMENT OF MATHEMATICS

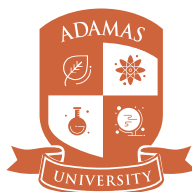
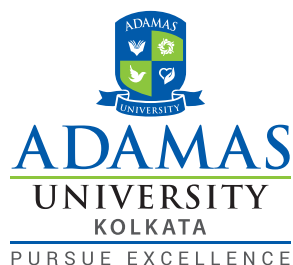
B.Sc. (Hons) in Mathematics
B.Sc. (Hons) in Statistics and Data Analytics
M.Sc. in Applied Mathematics
M.Sc. (Tech) in Statistics and Data Science
Ph.D. in Mathematics

DEPARTMENT OF GEOGRAPHY

B.Sc. (Hons) in Geography
M.Sc. in Geography
M.Sc. in Geoinformatics
PG Diploma in Geoinformatics and Geostatistics
Ph.D. in Geography

DEPARTMENT OF FORENSIC SCIENCE

B.Sc. (Hons) in Forensic Science
M.Sc. in Forensic Science



SCHOOL OF
BASIC AND APPLIED SCIENCES

SOBAS NEWS

SOBAS News, Adamas University, Volume- I, Issued 2021.

School of Basic & Applied Sciences