Name of Programme: One day Seminar

Seminar Topic: "Molecular electronics: Electronics using molecules"

Notice of the Programme/Principal Permission copy:

KATWA COLLEGE

(Affiliated to the UNIVERSITY OF BURDWAN)



Tel.: (03453) 255049 Mail : katcoll2009@gmail.com

Website : www.katwacollege.ac.in

Notice

Date:22.10.2024

It is my pleasure to invite all of my esteemed colleagues and beloved students to attend the one-day seminar, arranged by the Department of Physics, Katwa College, on 29/10/2024 at 01:30 pm. The sole speaker of the seminar is one of the alumni of department of Physics, Dr. Arup Sarkar, Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel. Dr. Sarkar's deliberation will primarily encompass around much fascinating and challenging area of Physics-Molecular Electronics which has enormous potential in the field of application oriented new research. We hope the students of Physics, Chemistry, Mathematics, Electronics, Botany and Zoology will surely be benefited and will be motivated to pursue research work if they attend the seminar. Interested teachers from others departments are also welcome to the seminar.

The details of the programme are given below.

Programme Details: Date: 29/10/2024 Time: 01:30 pm Venue: College Auditorium Speaker: Dr. Arun Sarkar, D



Dr. Nirmalen Principal. Katwa College Principal Katwa College

Speaker: Dr. Arup Sarkar, Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel Title : "Molecular electronics: Electronics using molecules" Date of the Programme, Venue & Time:

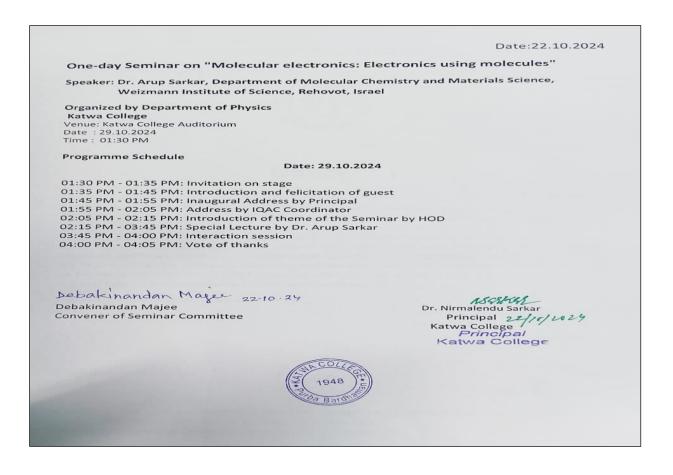
Date: 22.10.2024

Venue: College Auditorium

Time: 01:30 P.M.

One-day Seminar on Molecular electronics : Electronics using molecules Speaker Dr. Arup Sarkar Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovol 7610001, Israel Organized By: Department of Physics, Katwa College Date: 29.10.2024 **Students of all science departments will be benefited Venue: Auditorium, Katwa College and are cordially welcome to take part in the seminar. Time: 1:30pm

Programme Schedule:



Resource Person & Topic of Lecture:

Dr. Arup Sarkar, Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel

Topic: "Molecular electronics: Electronics using molecules"

Name of the Department/Committee & Convener Name:

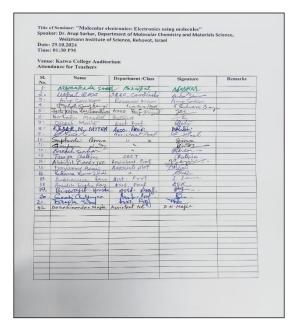
Mr. DebakinandanMajee

Convener of Seminar Committee

Assistant Professor, Department of Physics

No of Participants: 52 (Teachers-22, Students-30)

Date:		of Science, Rehovot, Is	Chemistry and Materials S srael	
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Outcomes of the Programme:

Abstract:

Molecular electronics:Electronics using molecules Weizmann Institute of Science Rehovot 7610001, Israel

Molecular electronics is a comparatively new branch of science whereinthe molecules or molecular assembly are used as building blocks for the fabrication of electronic components like rectifier, wire, transistor etc. This is a bottom-up approach and differs from the conventional top-down approach in which the electronic components are made from bulk materials. Because of several advantages, there is a dream to replace the inorganic devices with molecular devices. Though this is a very early stage, scientific society is hopeful to achieve this goal in future. In this regard, I will talk about the main idea and approaches (experimental) in molecular electronics. Further, it will be discussed about its potential for achieving the holy grail of physics- room temperature superconductivity.

GPS photo:





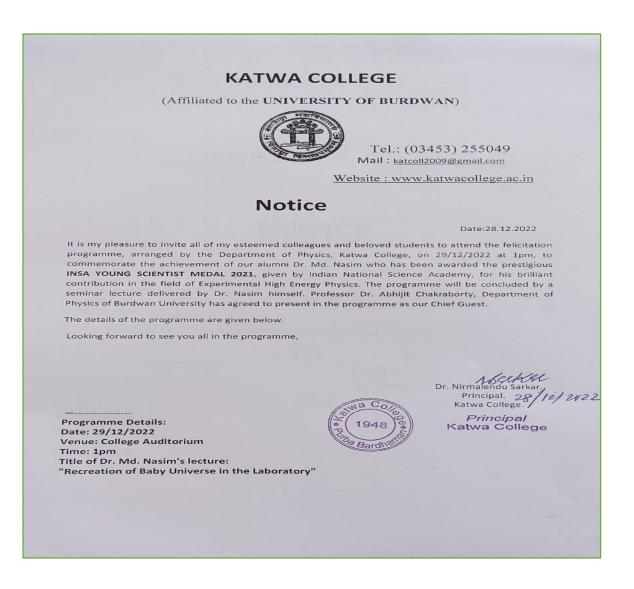




Name of Programme: Felicitation & Seminar Programme

Seminar Topic: "Recreation of Baby Universe in the Laboratory"

Notice of the Programme/Principal Permission copy



Date of the Programme, Venue & Time:

Date: 29.12.2022

Venue: College Auditorium

Time: 01:00 P.M.



Resource Person & Topic of Lecture:

Dr. Md. Nasim, Assistant Professor, IISER Berhampur

Topic: "Recreation of Baby Universe in the Laboratory"

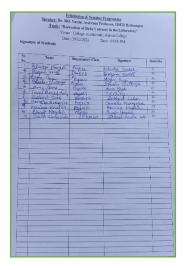
Name of the Department/Committee & Convener Name:

Mr. DebakinandanMajee

Convener of Seminar Committee

Assistant Professor, Department of Physics

No of Participants: 81 (Teachers-37, Students-44)







Outcomes of the Programme:

Abstract:

According to quantum chromodynamics (QCD), at very high temperature (T) and/or at high density, a de-confined phase of quarks and gluons is expected to be present, while at low T and low density the quarks and gluons are known to be confined inside hadrons. The heavy-ion collisions (A + A) provide a unique opportunity to study QCD matter in the laboratory experiments. The medium created in the heavy-ion collision is very hot (~4 trillion degrees Celsius) and dense and also extremely short-lived (~10–23 sec). In this talk, the speaker discussed various properties of QCD matter produced in heavy-ion collisions.

To encourage our students of our college seminar committee, arrange a one-day seminar on 29-12-2022 where Dr. Md. Nasim, Assistant Professor, IISER Berhampur delivered a talk entitled "Recreation of Baby Universe in the Laboratory". We conducted a programme in two sessions in the first session on behalf of Katwa College we felicited Dr. Nasim for his achievements (Prestigious INSA YOUNG SCIENTIST MEDAL-2021). In felicitation programme few faculty members of Katwa College introduced Dr. Nasim and three Ex-students of Physics departments gave deliberation. Dr. AbhijitChakraborty, Professor, Department of Physics, Burdwan University was the Chief Guest in our programme.

Geo Tag photo:













Name of Programme: One day Seminar

Seminar Topic: "Small is Beautiful - A Micro and Nano World Perspective in Human Life"

Notice of the Programme/Principal Permission copy

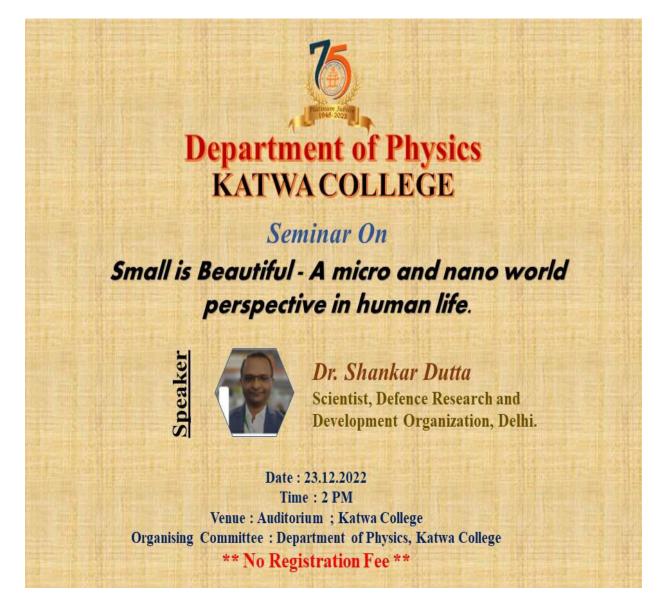


Date of the Programme, Venue & Time:

Date: 23.12.2022

Venue: College Auditorium

Time: 02:00 P.M.



Resource Person & Topic of Lecture:

Dr. Sankar Dutta, Scientist, DRDO, Delhi

Topic: "Small is Beautiful - A Micro and Nano World Perspective in Human Life"

Name of the Department/Committee & Convener Name:

Mr. DebakinandanMajee

Convener of Seminar Committee

Assistant Professor, Department of Physics

No of Participants: 65 (Teachers-26, Students-39)





Outcomes of the Programme:

Small is Beautiful - A Micro and Nano World Perspective in Human Life

Abstract:

Since the pre-historian ages, the continuous efforts for the betterment of mankind have led to many revolutionary inventions. We all know how the inventions of fire, wheel, gunpowder, steam engine, electricity, etc. have changed human lifestyle. Today, we can't imagine our daily life without the presence of computers, mobile, internet. The progress in biotechnology has led to many therapeutic compounds, which save our lives from many life-threatening diseases. Behind many of these modern-day technological marvels, the technologies of micro and nano worlds act as the basic building block.

With the advent of micro and nano technologies, it is possible to send a miniaturized robotic arm (having a camera and actuators) through a vein to rectify heart problems. The size and weight of

computers reduced from 15 m long and 5 tons in 1945 to a few hundred grams which fitting today on our lap are only possible due to the quest for miniaturization.

To excel in the betterment of human life, the basic understanding of micro and nanotechnologies need to be understood.

To encourage our students of Katwa college seminar committee arrange a one-day seminar on 23-12-22 where Dr.Sankar Dutta, Scientist, DRDO, Delhi delivered a talk entitled 'Small is Beautiful - A Micro and Nano World Perspective in Human Life'. Dr. Dutta discussed how DRDO scientists support our soldiers technologically to fight against our enemy. He discussed various aspects of Micro Electromechanical System (MEMS) and Nano Electromechanical System (NAMES) for our students to make them interested in research in this particular field. He also discussed how semiconductor devices and sensors are used in the defense of our country. He also discussed the scopes of research and job opportunities in the field of Nano and material science. It is to be noted that not only the students of Physics the students of other science department like Chemistry, Zoology, Botany were present in Dr.Sankar's lecture.

Geo Tag Photo:













Name of Programme: One day Seminar

Seminar Topic: Study of polar sea-ice and its impact on Indian Climate Variability

Notice of the Programme/Principal Permission copy

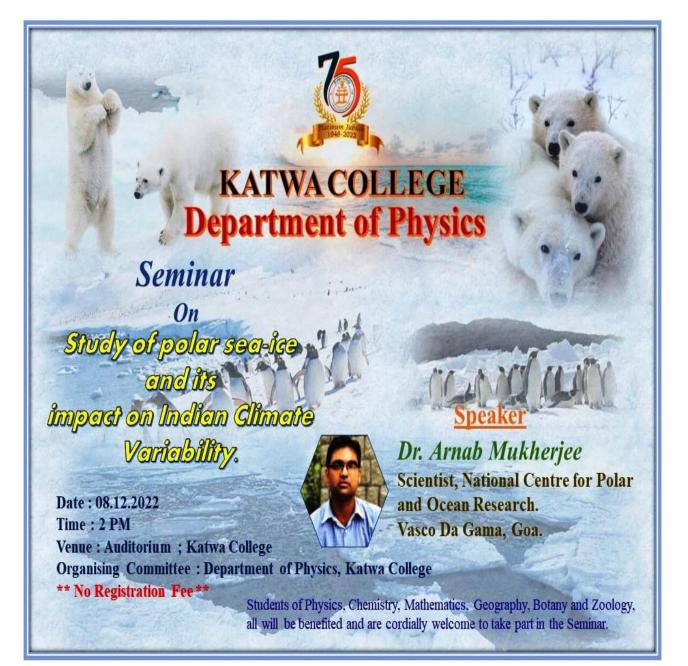


Date of the Programme, Venue & Time:

Date: 08.12.2022

Venue: College Auditorium

Time: 02:00 P.M.



Resource Person & Topic of Lecture:

Dr.ArnabMukherjee, Scientist`D`, National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Sciences, Government of India.

Title of the talk: Study of polar sea-ice and its impact on Indian Climate Variability

Name of the Department/Committee & Convener Name:

Mr. DebakinandanMajee

Convener of Seminar Committee

Assistant Professor, Department of Physics

No of Participants: 64 (Teachers-19, Students-45)







Outcomes of the Programme:

Abstract:

In recent times, rapid melting of polar sea ice has been observed in both Arctic (North Pole) and Antarctic (South Pole) regions, however rate of melting is high in the Arctic compared to the Antarctic. The rapid decline of sea-ice is responsible for warmer climate in the Polar regions and play a dominant role for global warming in the World. A recent study also shows that there is a teleconnection between the rapid change of Arcticsea ice and extreme climatic events in India. However, the role of polar sea-ice on Indian climate is mostly unknown and research is going on to understand the connection between polar sea-ice and Indian climate variability.

Our institute named "National Centre for Polar and Ocean Research (NCPOR)", located at Vasco Da Gama, Goa is a part of the Ministry of Earth Sciences (MOES) and is dedicated to research on all sectors of Polar Oceanography which includes Polar Biology, Polar Chemistry, Polar Physics, etc. In my group, we have developed a global ocean sea-ice coupled general circulation model to study polar sea-ice variability and its impact on global climate. The development of the model is based on geophysical fluid dynamics and we are using a High-Performance Computing (HPC) facility installed at the Indian Institute of Tropical Meteorology (IITM), Pune for running the numerical model. Research on the continuous development of the model is going on by improving the physics of the model and configurations.

Our institute NCPOR is involved in annual expeditions to the Arctic, and the Antarctic and also started expeditions in Himalayan regions for various observations related to the ocean, atmosphere, river, etc. These observations are regularly analysed to understand various changes in the above regions and also compared with numerical models to understand the physics of it. Apart from three pole expeditions (Arctic, Antarctic, and Himalaya), our institute also works on climate variability in the southern part of the Indian Ocean and for the above study, every year an expedition has been organized using a research vessel ship to collect various oceanographic and atmospheric observational data.

To encourage our students of Katwa college seminar committee arrange a one-day seminar on 08-12-22 where Dr.Arnab Mukherjee, Scientist`D`, National Centre for Polar and Ocean Research (NCPOR),

Ministry of Earth Sciences, Government of India, delivered a talk entitled 'Study of polar sea-ice and its impact on Indian Climate Variability '. Where he discussed various aspects of Polar climate and Oceanography. He also discussed the scopes of research and job opportunities in the field of Polar Oceanography. It is to be noted that not only the students of Physics the students of other science departments like Chemistry, Mathematics, Zoology, Botany and Geography were present in Dr.Mukherjee's lecture.

Geo Tag photo:













Name of Programme: One day Seminar

SeminarTopic: "Basics of Geophysics and its career opportunities"

Notice of the Programme/Principal Permission copy

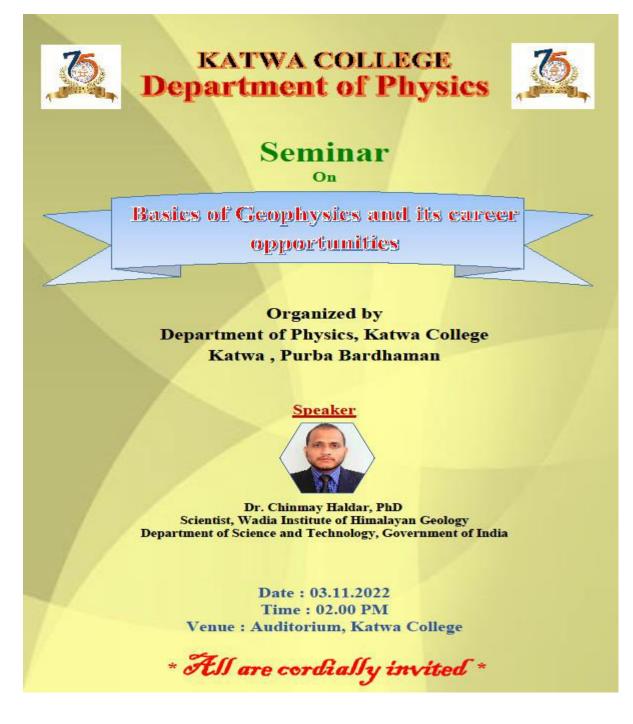
KATWA COLLEGE (Affiliated to the UNIVERSITY OF BURDWAN) Tel.: (03453) 255049 Mail : katcoll2009@gmail.com Website : www.katwacollege.ac.in NOTICE Date: 02.11.2022 This is to inform all the teachers and students of the departments of Physics, Chemistry, Mathematics and Geography of Katwa College that Dr. Chinmay Haldar, Scientist, Wadia Institute of Himalayan Geology, Department of Science and Technology, Government of India, will deliver a talk on 03.11.2022 at our college. The students and teachers of the said departments are directed to positively attend the lecture entitled "Basics of Geophysics and its career opportunities". Interested teachers from other departments are also welcome to the seminar. Venue: College Auditorium Time: 02.00 P.M Date: 03.11.2022 Debakinandan Maju Debakinandan Majue Dr. Nirmalendu Sar Convener, Seminar Committee Principal ge Principal KATNA COLLEGE Katwa College

Date of the Programme, Venue & Time:

Date: 03.11.2022

Venue: College Auditorium

Time: 02:00 P.M.



Resource Person & Topic of Lecture:

Dr. ChinmayHaldar, Scientist, Wadia Institute of Himalayan Geography, Department of Science and Technology, Government of India.

Topic: "Basics of Geophysics and its career opportunities"

Name of the Department/Committee & Convener Name:

Mr. DebakinandanMajee

Convener of Seminar Committee

Assistant Professor, Department of Physics

No of Participants: 85 (Teachers-23, Students-62)







Outcomes of the Programme:

Geophysics is understanding the Earth and similar planetary systems by applying the principles of Physics. It may be studied from two different points of view: (a) Theoretical, and (b) Exploration. In theoretical Geophysics, we try to understand various properties of the Earth and Earth-like systems from basic scientific principles. It includes rigorous mathematics, chemical study, and other interdisciplinary theories. In exploration Geophysics, we learn various wellestablished exploration techniques like gravity survey, seismic survey, electromagnetic survey, well-logging, etc.

This is where money is. If you develop expertise in any of the survey techniques, you may get a high paid job.

Geophysics specially the exploration Geophysics is highly rewarding field of study. There are various job opportunities available in the private sector, PSU, and directly in the govt.

Private Sector: Various private companies like SLB, Cairn take Geophysicists every year.

PSU: PSU like ONGC and other companies take hundreds of Geophysicists each year through campus placement as well as through GATE score.

Govt Job: There are some very prestigious govt job roles for Geophysicists like the GSI.

Geophysics is still developing and there are huge possible areas of development. As the theories in other fields develop, smart Geophysicists will try to make it applicable in their work. A latest example is where muon survey techniques are coming up where we can map the subsurface looking up from the core.

The latest inclusion of AI/ML (Artificial Intelligence/ Machine Learning) in Geophysical research make it so much young again to grow. For example, the earthquake prediction research has grown significantly in the last few years.

In the development of a nation Geophysicists play an active role. Here is how:

1. Geophysicists do the areal survey through remote sensing, airborne or by other means. And areal exploration is the very first step of finding a deposit of national resources. National resources decide the economy of a country and thus the standard of living of its people.

Example: Recently we found Li deposit in Kashmir valley. It will definitely boost the EV manufacturing in India. People will get job with cheaper EVs.

2. Geophysicists play an active role in observing the changing seismicity of a nation. They help in deciding the locations of major infrastructure projects.

Other so many.

To encourage our students of our college seminar committee, arrange a one-day seminar on 03-11-2022 where Dr. ChinmayHaldar, Scientist, Wadia Institute of Himalayan Geography, Department of Science and Technology, Government of India, delivered a talk entitled "Basics of Geophysics and its career opportunities". Where he discussed various scopes of research and job opportunities in the field of Geophysics.It is to be noted that not only the students of Physics the students of other science departments like Chemistry, Mathematics and Geography were present in Dr.Haldar's lecture.

Geo Tag photo:













Name of Programme: Observe the 158th birth anniversary of the Great Indian Scientist Sri Acharya Prafulla Chandra Ray

Seminar Topic: "Life and Works of Great Indian Scientist Sri Acharya Prafulla Chandra Ray"

Notice of the Programme/Principal Permission copy

Date 03/08/19 Notice The department of Chemistry, Physics & Mathematics of Katwa College are going to observe the 158th birth anniversary of the Great Indian Scientist Sri Acharya Prafulla Chandra Ray on 09/08/2019 in our college. All our esteemed colleagues and students are requested to take part the programme and make it a success. Venue : College Auditorium Date: 09/08/2019 Time: 12 noon Debakinondon Mayee Conveners of Seminar Committee

Date of the Programme, Venue & Time:

Date: 09.08.2019

Venue: College Auditorium

Time: 12:00 Noon

Resource Persons/Speakers& Topic of Lecture:

Dr. DayamoyBisui, HOD, Department of Physics, Katwa College

Dr. KedarNathMitra, HOD, Department of Chemistry, Katwa College

Topic: "Life and Works of Great Indian Scientist Sri Acharya Prafulla Chandra Ray"

Name of the Department/Committee & Convener Name:

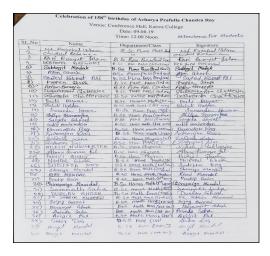
Mr. DebakinandanMajee

Convener of Seminar Committee

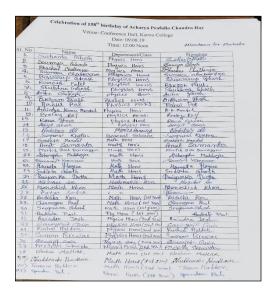
Assistant Professor, Department of Physics

No of Participants: 140 (Teachers-18, Students-122)





	Venue: C	Onference Hall, Katwa C Date: 09.08.19 Time: 12.00 Noon	Attendance for Teachers
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Outcomes of the Programme:

To commemorate 158th birth anniversary of great Indian Teacher andScientist Sri Acharya Prafulla Chandra Ray and to encourage the students of Katwa College, seminar committee arranged a one-day seminar on 09-08-19 on behalf of Katwa College. The speakers of the seminar wereDr. DayamoyBisui, HOD, Department of Physics, Katwa College and Dr. KedarNathMitra, HOD, Department of Chemistry, Katwa College. Dr. Bisui, in his deliberation focused on life of Sri Acharya Prafulla Chandra Ray and main theme of lecture of Dr. Mitra was work and activity of Sri Acharya Prafulla Chandra Ray.

Photo:











