



# SOCIETY ACTIVITY REPORT 2019-2020

## PHYSICS SOCIETY

### A. FLAGSHIP EVENTS OF PHYSICS SOCIETY (2019-2020)

#### ❖ The Meera Memorial Paper Reading Competition :

Date : 16th and 17th January, 2020.

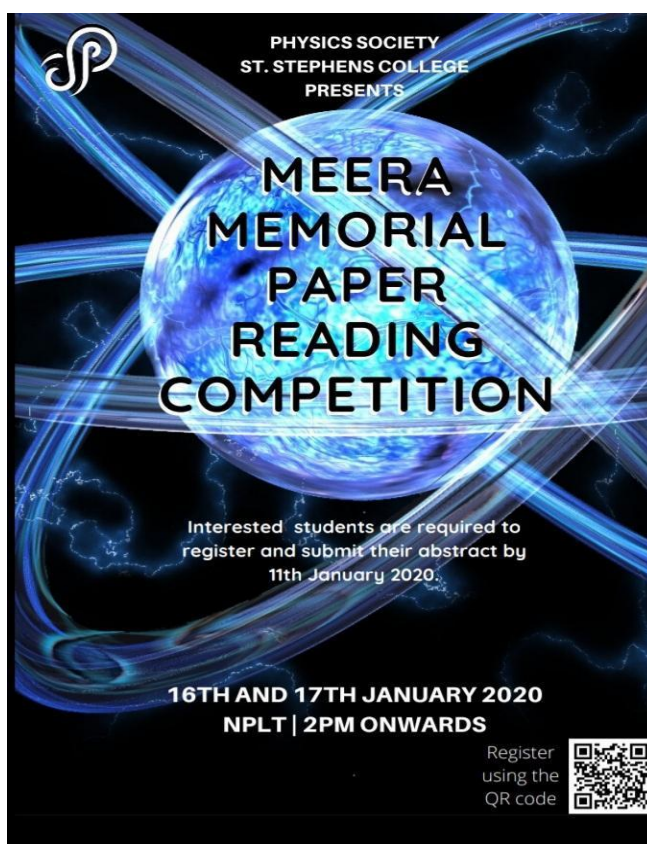
Time : 2:00 to 5:00 pm

Venue : New Physics Lecture Theatre, St.Stephen's College

Judges : 1) Dr Annu Malhotra, Physics Dept, St.Stephen's College.

2) Dr Sanjay Kumar, Physics Dept, St.Stephen's College.

3) Aanchal Sagwan, 3rd Yr U.G, St.Stephen's College



*Above : Poster made for the Meera Memorial Paper Reading Competition, 2020*



## The Physics Society

St. Stephens College

### MEERA MEMORIAL PAPER READING COMPETITION 2020

THURSDAY 16th January 2020

Participant Type	College	Name	Year	Course	TOPIC
Alone	St. Stephen's College	Varun Upreti	1	PHY	<i>Simulation of Multiparty clock synchronization protocols</i>
Alone	St. Stephen's College	Chaitanya Verma	2	PHY	<i>Chaos in Cryptography</i>
Alone	St. Stephen's College	Binayak Bhusan Roy	2	PHY	<i>Stellar pulsation</i>
Pair	St. Stephen's College	Reuel	2	PHY	<i>Structural modelling of solar type stars and white dwarfs.</i>
		Dhruv			
Alone	St. Stephen's College	Rajat Chandra Mishra	3	PHY	<i>Dawn of the dead</i>
Pair	St. Stephens College	Vipin Chaudhary	3	PHY	<i>Dynamic image restoration using partial differential equations</i>
		Puneet Garg			
Pair	St. Stephen's College	Anubhav Gupta	3	PHY	<i>Analysis of the starting test of Einstein's General Theory of Relativity using certain mathematical approximations.</i>
		Saurav Mishra			
Alone	Kirorimal	Chirag Verma	2	PHY	<i>Epicycle - The Circular Paradigm</i>
Alone	Miranda House	Annanya	3	PHY	<i>Role of interference and reflection in Optical devices</i>
Alone	Miranda House	Joyta Singh	3	MAT	<i>Geometry and Graph Theory in Traffic Flow</i>

*Above : Schedule for 1st day of Meera Memorial , 16th January, 2020*



**The Physics Society**  
St. Stephens College

MEERA MEMORIAL PAPER READING  
COMPETITION 2020

FRIDAY 17th January 2020

Participant Type	College	Name	Year	Course	TOPIC
Alone	St. Stephens College	Paul Joseph Robin	1	PHY	Making Money using Quantum Mechanics
Alone	St. Stephens College	Ashutosh Kumar Mishra	1	PHY	Simulation Of A Quantum Harmonic Oscillator With Its Introduction To A Sermonic System
Alone	St. Stephens College	Rohit Vasav	2	PHY	Motion of rotating spheres in viscous fluids
Alone	St. Stephens	Rudra Kalra	2	PHY	Motion of Falling Dominoes
Alone	Kirorimal College	Harsh Pratap Singh	2	PHY	General Theory of Relativity- a non Classical approach towards gravity
Alone	St. Stephen's College	Abir V. George	3	PHY	A Bit-String Model for Biological Aging
Alone	St. Stephens College	Prerna	3	PHY	21 cm Hydrogen line - detection and analysis
Pair	Miranda House	Anu Sharma	3	PHY	Synthesis of nanoparticles and it's application
		Mukta Rajput			
Pair	Hindu College	Isha Sharma	3	PHY	Production of green electrical energy by oxide materials
		Shruti			

*Above : Schedule for 2nd day of Meera Memorial, 17th January, 2020*

❖ **Popli Memorial Aptitude Test :**

Date : 28th of February, 2020.

Time : 12:30 pm

Venue : New Physics Lecture Theatre, St.Stephen's College.





### Popli Memorial Aptitude Test

1 message

Physics Society <physics.stephens@gmail.com> Mon, Feb 24, 2020 at 8:16 PM  
Bcc: Jacob Cherian <jacob1.cherian@gmail.com>, Sanjay Kumar <sanjaysudha98@yahoo.co.in>, Sangeetha Sachdeva <sangeeta.s21@gmail.com>, Abhinav Gupta <fibrebundle@gmail.com>, Geetanjali Sethi <getsethi@gmail.com>, harish yadav <harish789@gmail.com>, Sanil Unnikrishnan <sanil.unni@gmail.com>, Chinkhanlun Guite <cguite@gmail.com>, Rekha Gupta <rekha111gupta@yahoo.com>, deboshree\_roy22@yahoo.com, Dr.Bikram Phookun <bphookun@yahoo.com>, Shruti Thakur <shruti.thkr@gmail.com>, aksrana92@gmail.com, Annu Malhotra <annu.malhotra@yahoo.com>, samarthenoshharrison@gmail.com, aishwaryadavid3@gmail.com, animeshshrivastava77@gmail.com, Aklanta Sarkar <aklanta.h.sarkar@gmail.com>, barodajagrati@gmail.com, sharonseenu01@gmail.com, rahejasudiksha@gmail.com, vaibhavrana7474@gmail.com, sneathomas70@gmail.com, Varun Upreti <varunup11201@gmail.com>, kguigaingam@gmail.com, gargisingh.216@gmail.com, sandrakottarathil232@gmail.com, flowermary09@gmail.com, muskangautam.mg1@gmail.com, sethih10@gmail.com, merilmaria01@gmail.com, mkyadav6671@gmail.com, joelgmodyil@gmail.com, 2000arpitasharma@gmail.com, deepanshubisht410@gmail.com, jisnatheresa961@gmail.com, utkarsh.balooni1@gmail.com, Shyam10kwd@gmail.com, chander1609c@gmail.com, dhruvthakurdas@gmail.com, pandeykarpriya@gmail.com, shalika.yekkar@gmail.com, richiem.arrangattu@gmail.com, shivamc9960@gmail.com, vipindoc2@gmail.com, sebastianjoseph839@gmail.com, Samriley2542001@gmail.com, thomas.morghulis@gmail.com, swapnila.2001@gmail.com, anandsreenis@gmail.com, jeremyjohn231@gmail.com, shantovincen1@gmail.com, arunimakavumkal@gmail.com, andreanerthi@gmail.com, remruati11@yahoo.com, ak8690913@gmail.com, vaibhavrana7474@gmail.com, nehazaira142@gmail.com, v4vishal4vs@gmail.com, pauljr1363@outlook.com, Chaitanya Varma <chaitanyamvarma@gmail.com>, michelle mathew <michymich1999@gmail.com>, kriti baweja <kritibaweja19@outlook.com>, mouliktas@rediffmail.com, nevin kuruvilla thomas <nevinkthomas31@gmail.com>, navdeep <navdeepdahiya8@gmail.com>, samuel john <sj45599@gmail.com>, ken sps <ken.george00sps@gmail.com>, Priyank John <priyank.john16@gmail.com>, akhandshishodia7777@gmail.com, sarthak vijay <vijaysarthak@yahoo.com>, luckyson ningthoujam <luckysonningthoujam16461@gmail.com>, prabhat.70707@gmail.com, panya jain <jainpanya24@gmail.com>, neel lohit dash <neellohitdashpathajoshi@gmail.com>, madan kumar <mdnbnr@gmail.com>, binayyak roy <binayyakhbroy@gmail.com>, jenita saji <jenitasaji@gmail.com>, j fanny cynthia <cynthia12fanny@gmail.com>, Avneet Kaur <avneetkaur0001@khalsa.com>, alenjeo98@gmail.com, Rahul Mallikarjun <rahmallikarjun@gmail.com>, rohit vasav <rohitnegism@gmail.com>, ivanna sangma <lvannamikkachi@gmail.com>, johnfrancis123j@gmail.com, thomson B mamoottil <tmamoottil@gmail.com>, rishabh jain <jainrishabhjr91@gmail.com>, Dhruv Tiwari <dhruvtiwari724@gmail.com>, emilia solo <soleomy08@gmail.com>, Manish kumar <manishtamta16094949@gmail.com>, amav anand <arnavananddps@gmail.com>, Dophaijimgshai mishad kharwanlaqng <mishaalkharwanlang@gmail.com>, meera nair <meera2nair8@gmail.com>, trisha debnath <mailtrisha1416@gmail.com>, imishabansal01@gmail.com, adarshp mathew <apmathew118@gmail.com>, Reul Dsouza <reuldsouza6@gmail.com>, samuel khiangte <samuelzkh@gmail.com>, dithaingam panmei <panmeidithaingam@gmail.com>, snehajosephraj@gmail.com, prince lathwal <Plathwal00@gmail.com>, Aleena Sibi <aleena.640@gmail.com>, abhishekpillips911@gmail.com, navya maria <navyamariyashiju01@gmail.com>, laagnesmpampilly@gmail.com, neil poddar <neilpdr2812@gmail.com>, rudra kalra <rudrakalra20@gmail.com>, mahaks6700@gmail.com, hritik yadav <hritikrao2014@gmail.com>, suhani <suhani.aneesh@gmail.com>, sharletteresa20@gmail.com, Vipin Chaudhary <vipinch123@gmail.com>, Akash Maurya <akash.maurya0899@gmail.com>, Sidra Ali <sidra998@gmail.com>, Ujjawal Chauhan <ujjawalchhn@gmail.com>, jainutkuromvila@gmail.com, Shivam Chugh <chughsatyam123456@gmail.com>, Chongten Pongener <Cpongener@gmail.com>, Vatsala Srivastava <vatsala.0899@gmail.com>, Arti Anand <artianand98@gmail.com>, Mervin Mathew <mervinmathew8595@gmail.com>, mariareji07@gmail.com, Alka Jobie <akajobie@gmail.com>, Saurav Mishra <mishrabittu99@gmail.com>, puneetgarg1722@gmail.com, Nikhil Faujdar <nikhilfaujdar2k@gmail.com>, Kshitij Singh <kshitij.sng12@gmail.com>, soihemgonmei@gmail.com, prema saharan <prema1076@gmail.com>, Lucienne <lavanya\_julian@yahoo.co.in>, Harsh Anand <Harshanand7666@gmail.com>, Abir George <georgeabir@gmail.com>, deepthiponn00@gmail.com, Daibayato Basu <daibayato@gmail.com>, aashiyashaji@gmail.com, sarthaksingh742@gmail.com, Anne Masih <masihanne7@gmail.com>, Anushka Ganguli <Anushka2371@gmail.com>, Jonathan daniel <jonathan.daniel3@gmail.com>, ved3165@gmail.com, sneha vaishali <snehavaisali@gmail.com>, Fionaann Jolly <fionaannjolly@gmail.com>, Peter J Pulikkunnel <peterjpu@gmail.com>, Akshay Raj <raj.akshay1000@gmail.com>, Rajat Chandra Mishra <mishrarc1999@gmail.com>, Loktinen Longchari <lokticri@gmail.com>, Vedant Rathore <rathorevedant99@gmail.com>, aanchalsagwal@gmail.com, Claireidine Alexandria Phanbuh <claireidinephanbuh@gmail.com>, dupish morgan <dupish1889@gmail.com>, Anubhav Gupta <jaiprakash171.gupta@gmail.com>

Dear All,

The Popli Memorial Aptitude test will be conducted on **Friday, 28th February, 2020** at **12:30 PM** in the **NPLT**. It will test your aptitude in different areas of Physics covered over the three years.

Students from all three years are eligible and encouraged to participate.

Hope to see you there.

All the best!  
The Physics Society

*Above : Public mail sent to students of Physics of all three years, St.Stephen's College*



❖ **24th Annual Popli Memorial Lecture Series :**

Date (with themes) : 24th of March - Introduction to Symmetry

25th of March - Symmetry and Noether's Theorem

26th of March - Higgs Boson through Symmetry

Time : 12:30 pm each day.

Venue : New Physics Lecture Theatre

Designation : Prof. Rohini M. Godbole, Honorary Professor, Indian Institute of Science,  
Bangalore, India.

**ST. STEPHEN'S COLLEGE**  
**PHYSICS SOCIETY**  
invites you to the  
**24<sup>th</sup> Annual Popli Memorial Lecture Series**  
**SYMMETRIES OF NATURE : NATURE OF SYMMETRIES**  
**A PHYSICIST'S OUTLOOK**  
By  
**Prof. Rohini Godbole**  
Indian Institute of Science, Bangalore

**25th February      26th February      27th February**

Symmetries in geometrical shapes and objects have fascinated us since the beginning of the intellectual explorations, including poet William Blake talking about the 'fearful symmetry' of a tiger burning bright! Apart from this fascination, symmetries of nature have played an extremely important role in uncovering the laws of our physical world. This three lecture course would be about 'Symmetries' and specifically about symmetries of equations of motion. After giving a description of what one means by symmetries as one comes across it in various walks of life the talk would be about the deep connection between symmetries and conservation laws which was elaborated upon by the great mathematician Emmy Noether. One will try to understand how the well known conservation laws of linear momentum and energy simply follows from basic properties of space and time. The third lecture would give a flavour of the role symmetry ideas have played in the development of modern day particle physics. It will also be discussed how, in fact, particle physicists were led to the postulate of Higgs boson, confirmed by discovery at the LHC in 2012, only by symmetry considerations.

**Venue: NPLT | Time: 12:30 PM**  
Vatsala: 8726646539      Saurav: 7510087872

*Above : Poster made for the 24th Annual Popli Memorial Lecture Series, 2020*





*Above : Collab of photos taken during the Series*



*Above : Principal John Vargese with Prof. Rohini M. Godbole*



## B. TALKS AND SESSIONS CONDUCTED BY THE CLUBS OF THE SOCIETY

The Society consists of three clubs, namely, the Feynman Club, Astronomy Club and Problem Solving Club. Talks under the Feynman club (called Feynman Talks) are delivered by scholars and academics in the field of Physics. Sessions in Astronomy and Problem solving Club are conducted by the student members of the society.

❖ Feynman Club: Talks and Webinars.

Topics	Speakers	Date/time	No. of participants
Talk : Unconventional avenues after Physics	Dr. Krishnan Thyagrajan, Scientist at the Palo Alto Research Center	2nd August, 2019 12:30 pm	45
Talk : Non-Dimensionalisation	Dupish Morgan and Daibayato Basu, 3rd yr Physics Students	16th August, 2019 12:30pm	40
Talk : Bridging Quantum & Technologies - a solution made of diamonds	Dr. Kssturi Saha, Department of Electrical Engineering - IIT Bombay	20th August 2019	50
Talk : Computational Physics through interactive visualisation	Sachin Gupta, 3rd Yr Physics Student	9th September, 2019	40
Talk : An introduction to Renormalisation	Dr. Vikram Vyas, Theoretical Physicist,	20th September, 2019	45



Group	Chairperson, Ajit Foundation		
Talk : Elementary Particles	Mitrajyoti Ghosh, Phd Student at Corell University	17th January, 2020	47
Talk : Measurement of Seismic Activity on Venus through Remote Sensing	Dr.Siddharth Krishnamoorthy, Postdoctoral Scholar at NASA-JPL	31st January, 2020	43
Talk : Physics beyond the very small or very large	Prof. Gautam I.Menon, Professor at the Institute of Mathematical Sciences	7th February, 2020	45
Webinar : A Bit String Model For Ageing	Abir George, 3rd Yr Physics Student	2nd May, 2020	43
Webinar : Synchronisation - Emergence of Order in Nature	Prof. Gaurav Dar, Professor at the Department of Physics, BITS Pilani - Goa Campus	9th May, 2020	40





The Feynman Club

St. Stephen's College



invites you for a talk titled

Measurement of Seismic Activity on Venus through Remote Sensing

by

Siddharth Krishnamoorthy  
Jet Propulsion Laboratory, NASA

<https://mail.google.com/mail/u/1/?ik=55846af03&view=pt&search=all&permthid=trnad-a%3A4855958476478985&siml=msg-a%3A48112...>

7/6/22, 3:19 PM

Gmail - Feynman Club talk | Friday, 31 January 2020 | Siddharth Krishnamoorthy

Abstract

Surface-based seismology, which is essential to understanding a planet's interior structure and evolution, is current untenable on Venus due to high surface temperature and pressure, which severely limit mission lifetimes. However, the upper layers of the Venusian atmosphere are more benign and capable of hosting geophysical payloads for much longer mission lifetimes. Seismic activity may be detected and characterized using the low frequency acoustic signal (infrasound) it produces through ground-air coupling.

In this presentation, I will present a perspective on progress achieved towards the goal of performing seismology on Venus using balloons in its atmosphere and through orbiters, without actually needing to land and survive on its harsh surface.

Date: Friday, 31st January, 2020.

Venue: NPLT

Time: 12:30 PM

Feynman Club talk || Friday, 17 January 2020 || Mirajyoti Ghosh

3 messages

Physics Society <physics.stephens@gmail.com> Wed, Jan 15, 2020 at 6:14 PM  
To: Shivam Chugh <chughsatyam123456@gmail.com>

The Feynman Club

St. Stephen's College



invites you for a talk titled

Elementary Particle

by

Mitrajyoti Ghosh  
Teaching Assistant at Cornell University

Abstract

The study of elementary particles is one aspect of physics that is often very deliberately kept outside the line of sight of undergraduates. For example, the Higgs Boson is famously familiar to most newspaper-perusing individuals across the planet, yet there is really no clue amidst generic physics undergraduates as to what it means in the grander scheme of things. The Higgs is said to be the reason particles have mass, yet for something so fundamental, how is it that it never shows up in any of the

<https://mail.google.com/mail/u/1/?ik=55846af03&view=pt&search=all&permthid=trnad-a%3A482064591232404358&siml=msg-a%3A4018...>

7/6/22, 3:18 PM

Gmail - Feynman Club talk | Friday, 17 January 2020 | Mirajyoti Ghosh

typical physics classes you take as an undergrad? In this talk, I'll try to explain how theoretical particle physics fits in the bigger picture of things - does a biologist need to worry about electroweak unification? If not, why not? If so, when? In the process I'll talk about my work at Cornell and try to explain what is it that goes on in the mind of the particle physicist as they try to make sense of the fundamental particles and interactions that make us all. No previous knowledge of quantum mechanics will be necessary. Come and chat and bring questions!

Date: Friday, 17th January, 2020.

Venue: NPLT

Time: 12:30 PM

The Feynman Club

St. Stephen's College



invites you for a talk titled

<https://mail.google.com/mail/u/1/?ik=55846af03&view=pt&search=all&permthid=trnad-a%3A48739015600223363685&siml=msg-a%3A47408...>

9/22, 3:13 PM

Gmail - Feynman Club talk | Friday, 20 September | Dr. Vikram Vyas

How Can We Say Something Without Knowing Every Thing?

An Introduction to Renormalization Group

by

Dr. Vikram Vyas  
Ajit Foundation Science Centre, Bikaner

Abstract

Quantum field theory provides a very general and powerful framework for describing fundamental laws of nature. This framework apparently requires that we understand the physics right down to the infinitesimally small distances, distances that our experiments cannot even probe. Therefore the question arises that how can we formulate laws of physics that can be verified using instruments with finite resolving power. A new way of analyzing quantum field theories was developed, largely by Ken Wilson, that answers this question through the idea that the values of the parameters, like the charges, that appear in a given theory depends on the resolving power of our experimental probes. Mathematical frame work describing these ideas is referred to as the renormalization group. I will introduce the idea of renormalization group as a sophisticated, but conceptually simple, extension of the idea of dimensional analysis and scaling but one which explicitly incorporates quantum fluctuations.

Date: Friday, 20th September, 2019.

Venue: NPLT

Time: 12:30 PM

The Physics Society

The Feynman Club

St. Stephen's College



invites you for a talk titled

Computational Physics Through Interactive Visualization

<https://mail.google.com/mail/u/1/?ik=55846af03&view=pt&search=all&permthid=trnad-a%3A476282371402008&siml=msg-a%3A2148...>

7/6/22, 3:12 PM

Gmail - Feynman Club Talk | Monday | Sachin Gupta | Physics

Sachin Gupta (3rd Physics)

Abstract

IP[y]:  
IPython

3/4

The talk will be based on how Javascripts tools work on Jupyter Notebook and how we can use them in our Computational lab. For courses like Physics where initial and boundary conditions play very important role, often we require to subject the systems into different initial conditions to see its behavior for later instant. For this we have to keep changing the values in code and run it again and again. Sometimes it becomes literally tedious when there are large number of parameters affecting your system. I will be talking about how this problem can be solved by an interactive manner so we don't have to run the program again and again. I will also be discussing new plotting library (2D and 3D) that is compatible with interactions.

Date: Monday, 9 September 2019.

Venue: NPLT


Time: 3:00 PM

Note: This talk is basically for Second and Third years students as they are familiar with python already. Any first Year who is familiar with python is welcome to attend.

The Physics Society



**The Feynman Club**  
St. Stephen's College



invites you for a talk titled

**Bridging quantum and  
technologies – a solution made of**

[https://mail.google.com/mail/u/1/?ik=65844ce03&view=pt&search=mail&permmsgid=thread-a%3A4149323142533896741&siml=msg-a%3A16787... 2/6](https://mail.google.com/mail/u/1/?ik=65844ce03&view=pt&search=mail&permmsgid=thread-a%3A4149323142533896741&siml=msg-a%3A16787...)

---

7/9/22, 3:06 PM


Gmail - Feynman Talk(20 August) Kasturi Saha

**diamond!**

by  
**Kasturi Saha**

Assistant Professor, Department of Electrical Engineering,  
Technology, Bombay, Indian Institute of

**Abstract**



Tremendous research activity worldwide has focused on attempting to harness the exotic properties of quantum physics for new applications in metrology, computation, and communications - a push to develop "engineered quantum systems". Color centers in diamond such as, nitrogen-vacancy centers (NV centers) could provide a platform for precision magnetometry allowing for nanoscale magnetic resonance imaging (MRI) of individual complex molecules. In this talk, I will give an overview of our research towards development of an imaging tool for mapping neuronal signals from mammalian brain cells. In addition, I will describe our effort towards the development of a single photon sources.

**Date:** Tuesday, 20 August 2019.  
**Venue:** NPLT  
**Time:** 3:00 PM  
The Physics Society

*Above : Some supporting documents for the mentioned Feynman club talks.*

❖ Astronomy Club : Talk and other Sessions

Topics	Speakers	Date	No. of Participants
Positional Astronomy and Celestial Events	Dr. Rathnasree Nandivada	30th August, 2019	46
Telescope and its types	Aryan Mishra, an Amateur Astronomer	31st August, 2019	43
Stellar Evolution and examining an	Binayyak Bhusan Roy, 2nd Yr Physics	6th September, 2019	43



exceptional Binary Star	Student		
Training of students in using a telescope	Members of the Astronomy Club	25 October, 2019	NA
Observation of Moon using Newtonian Telescope	Members of the Astronomy Club	9th November, 2019	NA
Observation of Saturn and Jupiter using Newtonian telescope	Members of the Astronomy Club	11th November, 2019	NA
Solar Eclipse using Newtonian telescope	Members of the Astronomy Club	26th December, 2019	NA
Stellar Evolution and Supernovae - Life of a Massive Star	Akash Maurya	10th January, 2020	42

### The Astronomy Club

St. Stephen's College



invites you for a talk titled

## Stellar evolution and examining an exceptional binary star

by

**Binayyak Bhusan Roy**

St. Stephen's College

#### Abstract

In this talk, we will explore the basics of stellar evolution starting from the Hertzsprung-Russel diagram to the different phases in a typical star's life and the

<https://mail.google.com/mail/u/1/?ik=55804caf02&view=pt&search=all&permthid=thread-a%3A-e32450414516695146&siml=msg-a%3A-e1118...> 2/4

7/5/22, 3:10 PM

Gmail - ASTRONOMY CLUB TALK | 6th September | Binayyak Bhusan Roy

evolution of a star of 1 solar mass. And how the chemical evolution occurs in different star systems as well as the nuclear processes involved. The speaker will also talk about his work at Macquarie University involving a system of binary stars.

**Date:** Friday, 6th September 2019.

**Venue:** NPLT


**Time:** 12:30 PM

The Physics Society





**The Astronomy Club**  
St. Stephen's College



invites you for a talk titled

**Stellar Evolution and Supernovae  
- Life of a Massive Star**

by

**Akash Maurya**

[https://mail.google.com/mail/u/1/?ik=55844cef03&view=pt&search=all&permthid=thread-a%3A-6787954817167527279&siml=msg-a%3A-6786... 2/7](https://mail.google.com/mail/u/1/?ik=55844cef03&view=pt&search=all&permthid=thread-a%3A-6787954817167527279&siml=msg-a%3A-6786...)

---

7/9/22, 3:17 PM

Gmail - ASTRONOMY CLUB TALK | 10th January | Akash Maurya

St. Stephen's College

**Abstract**

The presentation will focus on the life history of massive stars (mass > 8 Solar masses) which end their lives as core-collapse supernovae (Type II supernovae). It will include a discussion on stellar nucleosynthesis, a qualitative description of the stages of core-collapse and finally the supernova explosion which leads to the formation of neutron stars and black holes.

**Date:** Friday, 10th January 2020  
**Venue:** NPLT  
**Time:** 12:30 PM  
The Physics Society

*Above : Invitation for the talk conducted by Astronomy club*

❖ Problem Solving Club :

Topics	Head	Date	No. of Participants
Fermi Problems	Sarthak Singh Bhaduria, 2nd Yr Physics Students	9th August , 2019	40
Thought Experiments	Sarthak Singh and Dupish, 3rd Yr Physics Students	23rd August, 2019	45
Random Walks	Reuel, 2nd Yr Physics Students	12th September	43



❖ Modelling and Computation Club :

Topics	Speakers/Heads	Date	No. of Participants
Talk : Mathematical Modelling of the simplest known life form : The Bacteria	Prof. Sanjay Jain, Department of Physics and Astrophysics, Delhi University	3rd October, 2019	50
Mathematically modelling Stray Dog Population	Rajat (3rd Yr), Reuel and Chaitanya (2nd Yrs) Physics Students	25th October, 2019	20
Stochastic Simulation Algorithm	Rajat Chandra Mishra, 3rd Yr Physics Students	24th January, 2020	20



Physics Stephen's <physics.stephens@gmail.com>

## Modelling and Computing Club Session: Stochastic Simulation Algorithm

5 messages

Physics Society <physics.stephens@gmail.com> Thu, Jan 23, 2020 at 10:41 AM

Bcc: Chaitanya Varma <chaitanyamvarma@gmail.com>, michelle mathew <michymich1999@gmail.com>, kriti baweja <kritibaweja19@outlook.com>, mouliktas@rediffmail.com, nevin kuruvilla thomas <nevinkthomas31@gmail.com>, navdeep <navdeepdahiya8@gmail.com>, samuel john <sj45599@gmail.com>, ken sps <ken.george00sps@gmail.com>, Priyank John <priyank.john16@gmail.com>, akhandshishodia7777@gmail.com, sarthak vijay <vijaysarthak@yahoo.com>, luckyson ningthoujam <luckysonningthoujam16461@gmail.com>, prabhat.70707@gmail.com, panya jain <jainpanya24@gmail.com>, neel lohit dash <neellohitdashpathajoshi@gmail.com>, madan kumar <mdnbnr@gmail.com>, binayyak roy <binayyakbhroy@gmail.com>, jenita saji <jenitasaji@gmail.com>, j fanny cynthia <cynthia12fanny@gmail.com>, Avneet Kaur <avneetkaur0001@khalsa.com>, alenjeo98@gmail.com, Rahul Mallikarjun <rahmallikarjun@gmail.com>, rohit vasav <rohitnegism@gmail.com>, ivanna sangma <lvannamikkachi@gmail.com>, johnfrancis123j@gmail.com, thomson B mamoottil <tmamoottil@gmail.com>, rishabh jain <jainrishabhjr91@gmail.com>, Dhruv Tiwari <dhruvtiwari724@gmail.com>, emilia solo <soleomy08@gmail.com>, Manish kumar <manishtamta16094949@gmail.com>, arnav anand <arnavananddps@gmail.com>, Dophiaijimgshai mishad kharwanlaqng <mishaalkharwanlang@gmail.com>, meera nair <meera2nair8@gmail.com>, trisha debnath <mailtrisha1416@gmail.com>, imishabansal01@gmail.com, adarshp mathew <apmathew118@gmail.com>, Reuel Dsouza <reuelsouza6@gmail.com>, samuel khiangte <samuelzkhang@gmail.com>, dithaingam panmei <panmeidithaingam@gmail.com>, snehajosephraj@gmail.com, prince lathwal <Plathwal00@gmail.com>, Aleena Sibi <aleena.640@gmail.com>, abhishekpillips911@gmail.com, navya maria <navyamariyashiju01@gmail.com>, liaagnesmampilly@gmail.com, samarthenoshharrison@gmail.com, aishwaryadavid3@gmail.com, animeshshrivastava77@gmail.com, Aklanta Sarkar <aklanta.h.sarkar@gmail.com>, barodijagrati@gmail.com, sharonseenu01@gmail.com, rahejasudiksha@gmail.com, vaibhavrana7474@gmail.com, snehathomas70@gmail.com, Varun Upreti <varunup11201@gmail.com>, flowergaingam@gmail.com, gargisingh.216@gmail.com, sandrakottarathil232@gmail.com, kugumary09@gmail.com, muskangautam.mg1@gmail.com, sethhi10@gmail.com, merilmaria01@gmail.com, mkyadav6671@gmail.com, joelgmodiyil@gmail.com, 2000arpatasharma@gmail.com, deepanshubisht410@gmail.com, jnsnatheresa961@gmail.com, utkarsh.balooni1@gmail.com, Shyam10kwd@gmail.com, chander1609c@gmail.com, dhruvthakurdas@gmail.com, pandeykarnpriya@gmail.com, shalika.yekkar@gmail.com, richiem.arrangattu@gmail.com, shivamc9960@gmail.com, vipindoc2@gmail.com, sebastianjoseph839@gmail.com, Samriley2542001@gmail.com, thomas.morghulis@gmail.com, swapnila.2001@gmail.com, anandsreenis@gmail.com, jeremyjohn231@gmail.com, shantovincen1@gmail.com, arunimakavumkal@gmail.com, andreanerthi@gmail.com, remruati11@yahoo.com, ak8690913@gmail.com,

<https://mail.google.com/mail/u/179k/55804cef03&view=pt&search=mail&permthid=thead-a%3A7059142833529941332&siml=msg-a%3A70607...> 1/7

7/9/22, 3:18 PM

Gmail - Modelling and Computing Club Session: Stochastic Simulation Algorithm

vaibhavrana7474@gmail.co, nehazaira142@gmail.com, v4vishal4vs@gmail.com, pauljr1363@outlook.com, Vipin Chaudhary <vipinch123@gmail.com>, Akash Maurya <akash.maurya0899@gmail.com>, Sidra Ali <sidra998@gmail.com>, Ujjawal Chauhan <ujjawalchhn@gmail.com>, jainutkuromvila@gmail.com, Shivam Chugh <chughsatyam123456@gmail.com>, Chongten Pongener <Cpongenger@gmail.com>, Arti Anand <artianand98@gmail.com>, Mervin Mathew <mervinmathew8595@gmail.com>, mariareji07@gmail.com, Alka Jobie <alkajobie@gmail.com>, Saurav Mishra <mishrabittu99@gmail.com>, puneetgarg1722@gmail.com, Nikhil Faujdar <nikhilfaujdar2k@gmail.com>, Kshitij Singh <kshitij.sng12@gmail.com>, soihemgonmei@gmail.com, prerna saharan <prerna1076@gmail.com>, Lucienne <lavanya\_julian@yahoo.co.in>, Harsh Anand <Harshanand7666@gmail.com>, Abir George <georgeabir@gmail.com>, depthiponnu00@gmail.com, Daibayato Basu <daibayatob@gmail.com>, aashiyashaji@gmail.com, sarthaksingh742@gmail.com, Anne Masih <masihanne7@gmail.com>, Anushka Ganguli <Anushka2371@gmail.com>, Jonathan daniel <jonathan.daniel3@gmail.com>, ved3165@gmail.com, sneha vaishali <snehavaisali@gmail.com>, Fionaann Jolly <fionaannjolly@gmail.com>, Peter J Pulikkunnel <peterjpuli@gmail.com>, Akshay Raj <raj.akshay1000@gmail.com>, Rajat Chandra Mishra <mishrarc1999@gmail.com>, Loktimen Longchari <lokticri@gmail.com>, Vedant Rathore <rathorevedant99@gmail.com>, aanchalsagwal@gmail.com, Claireline Alexandria Phanbuh <clairelinephanbuh@gmail.com>, dupish morgan <dupish1889@gmail.com>, Anubhav Gupta <jaiprakash171.gupta@gmail.com>, Vatsala Srivastava <vatsala.0899@gmail.com>

Dear all,

The **Modelling and Computing Club** invites you for its session on **Stochastic Simulation Algorithm**, to be held on **24th January (Friday), 12.30 pm in NPL**.

We hope that the previous talks and sessions have familiarised students with modelling different phenomena using differential equations. The real world however, is not that simple and many phenomena are probabilistic in nature. In Friday's session we will be trying to understand algorithms to model such probabilistic phenomena. Hoping to see you there!

Regards,  
Modelling and Computing  
The Physics Society

*Above : Invitation mail sent out to Physics students, St.Stephen's college , for the computational session held on 24th Jan*



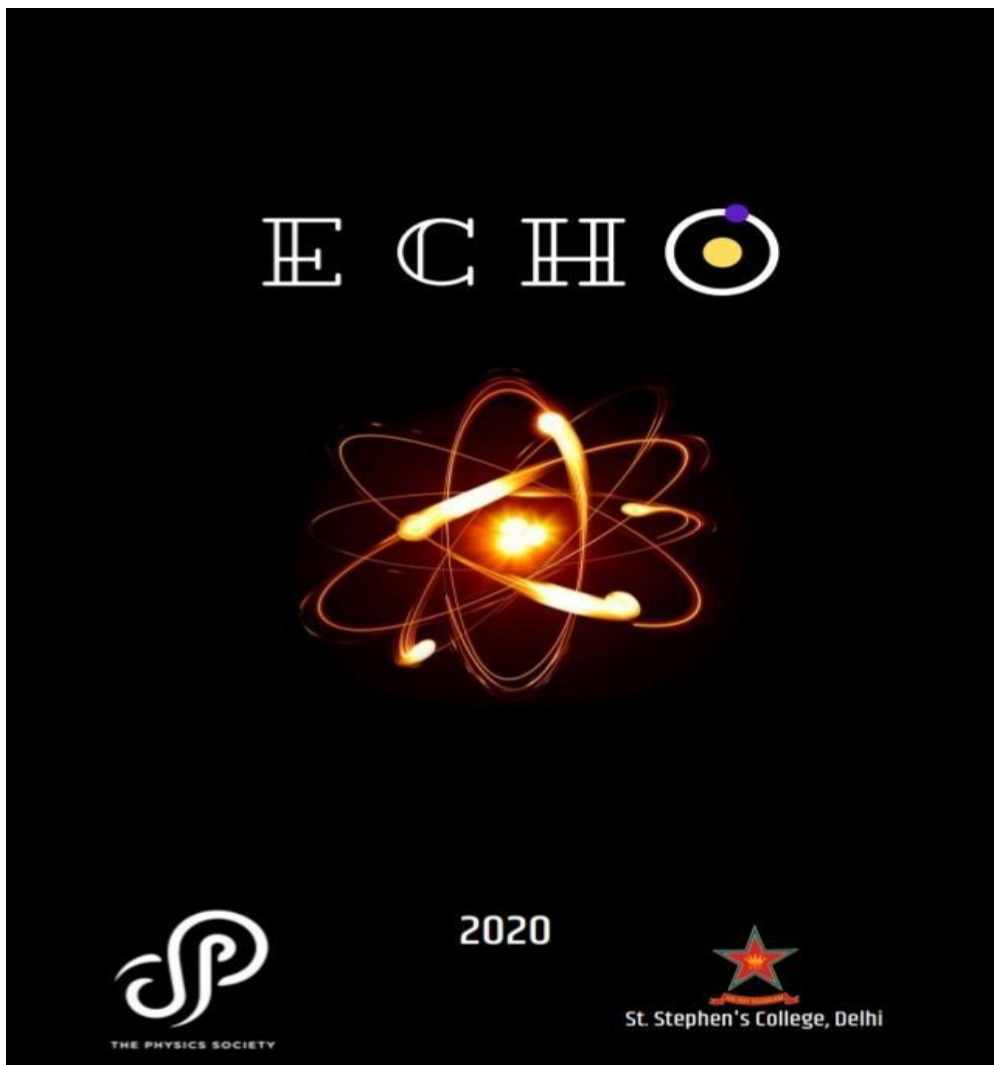


❖ Physics Society Journal:

Release Date : 26th March, 2020

Title : ECHO

Guests : Prof. Rohini M. Godbole, Honorary Professor, Indian Institute of Science,  
Bangalore, India





From the Staff Advisor	1
Trajectories of Spheres in viscid fluids	2
A message to Oneself	6
कदम	7
Time - Frequency representations in gravitational waves analysis	9
Convolutional Neural Networks	12
Microgravity Experiments	15

C  
O  
N  
T  
E  
N  
T  
S