

**The Indian Mathematical Society and GUJCOST/DST, Govt. of Gujarat,  
and Dhirubhai Ambani Institute of Information and Communication  
Technology, Gandhinagar** Jointly Organizing an Online Workshop

**Emerging Areas in Differential Equations and Real-World Applications  
30 May - 03 June, 2022**

The subject of differential equations is the natural goal of elementary calculus, and, most importantly, it is the source of ideas and theories for studying the change in the real world. The several questions naturally arise:

*“What is a differential equation? How do differential equations originate and what they represent? When encountered with a differential equation, what does one do with it, how does one do it, and what are the conclusions of such pursuit?”*

**Topics to be Covered:**

The workshop will cover the broad spectrum of the following three modules :

**Module 1** : Integer-order Differential Equations and Fractional Differential Equations

**Module 2** : Quantum Computing and Differential Equations (QISKIT)

**Module 3** : Machine Learning and Differential Equations (ANNAACONDA)

These questions signify three major aspects of the subject: Theory, Methods, and Applications. Therefore, in this workshop, first we introduce the basic aspects of the differential equations and challenges in solving them. Secondly, we try to answer how differential equations arise naturally in modelling real world problems viz. biological, epidemiological, social psychology, etc. in present scenario. Finally, we connect the subject with its emerging applications, especially use of Machine Learning (ML) and Quantum Computing (QC) in solving differential equations.

**Registration Fee:** The last day of registration is 15th May 2022

		Academic participants(UG/PG/PHD Scholars/Faculties/Post-Doctoral Researchers)	Industrialists/R&D Professionals/Others
Non IMS Member	Indian Delegates	INR 1250+18%GST+PG Charges	INR 2000+18%GST+PG Charges
	Foreign Delegates	USD 100	USD 150
IMS Member	Indian Delegates	INR 1000+18%GST+PG Charges	INR 1600+18%GST+PG Charges
	Foreign Delegates	USD 80	USD 120

\*IMS = The Indian Mathematical Society, \*PG = Payment gateway

The participation certificates shall be issued only to those participants with minimum 80% attendance. Note: Only soft copy.

**Invited Speakers:**



**Abdon Atangana**  
IGS, UFS South Africa



**Anuj Mubayi**  
PHC and ISU USA



**Shruti Dubey**  
IIT Madras



**Jaideep Mulherkar**  
DA-IICT Gandhinagar



**Ritesh Kumar Dubey**  
SRM Chennai



**Bipin Porwal**  
IITM Pune



**Ahlah Kumar**  
DA-IICT Gandhinagar



**Harish Sahu**  
DRDO New Delhi



**B V Rathish Kumar**  
IIT Kanpur



**Madhukant Sharma**  
DA-IICT Gandhinagar

**Patron:**

K S Dasgupta, DA-IICT Gandhinagar

**Advisory Committee:**

R P Aggarwal, Texas (A&M) University, USA  
Abdon Atangana, IGS, UFS South Africa  
D Bahuguna, IIT Kanpur  
Peeyush Chandra, IIT Kanpur  
G D Veerappa Gowda, TIFR – CAM Bangalore  
B V Rathish Kumar, IIT Kanpur  
A K Nandakumaran, IISc Bangalore  
V Sree Hari Rao, FSRT, Hyderabad  
Narottam Sahoo, GUJCOST DST, Gujarat  
Vishnu Dutt Sharma, IIT Bombay  
S Sundar, NIT Mizoram

**Program Committee:**

Syed Abbas, IIT Mandi  
Shruti Dubey, IIT Madras  
Ritesh Kumar Dubey, SRM Chennai  
Manish Kumar Gupta, DA-IICT Gandhinagar  
Ahlad Kumar, DA-IICT Gandhinagar  
B V Rathish Kumar, IIT Kanpur  
Muslim Malik, IIT Mandi  
Jaideep Mulherkar, DA-IICT Gandhinagar  
Bipin Porwal, IITM Pune  
Manas Ranjan Sahoo, NISER Bhubaneswar  
Madhukant Sharma, DA-IICT Gandhinagar  
Nabin Kumar Sahu, DA-IICT Gandhinagar  
Harish Sahu, DRDO New Delhi  
Prashant Srivastava, IIT Patna

**Local Organizing Committee:**

Manish Kumar Gupta  
Nabin Kumar Sahu  
Rahul Mutthu  
Ahlad Kumar  
Jaideep Mulherkar  
Madhukant Sharma (Chair)

**Student Volunteers:**

Biswajit Prusty, Dhiraj Golhar, Shivam Gupta, Harsh Metkel

**Contact Details:**

Madhukant Sharma (Program Chair/Convenor)  
Assistant Professor, DA-IICT Gandhinagar,  
Near Indroda Circle, Gandhinagar, Gujarat (India)  
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For more details

<https://eaderwa-workshop.daiict.ac.in> or scan QR code

