# THE LNM INSTITUTE OF INFORMATION TECHNOLOGY, JAIPUR

## Event Report

| S. No. | Particulars | Response |
|---|---|---|
| 1 | Name of the Event/ Activity | **PDE as a Topic of Analysis, History and Developments Prior to Modern Study** |
| 2 | Program Category<br>(FDP/ EDP/ UHV-FDP/ Conference/ Workshop/ Webinar/ Seminar/ Invited Talk/ Distinguished Lecture/ Induction Program/ Orientation Program/ Hackathon/ GIAN Course/ Sort-Term Course/ Training Session/ Cultural Program/ Competition/ Sports Event/ ISR Activity/ Charity Program/ Swachhta Program/ Healthcare Activity/ Others) | **Invited Talk** |
| 3 | Theme of the Event<br>(Technology/ Innovation/ Research Methodology/ IPR/ Start-up/ Entrepreneurship/ Skill Development/ Stress Management/ Motivation/ Gender Sensitization/ Women Empowerment/ Career Development/ Leadership/ Awareness/ Social Service/ Mentoring/ RoadShow/ Exhibition/ Others) | **Research Methodology** |
| 4 | Program Level<br>(National/ International/Departmental/ Institutional/ District/ State) | **Institutional** |
| 5 | Program Category<br>(Institute Lead Activity/ Student Lead Activity) | **Institute Lead Activity** |
| 6 | Organized for?<br>(Faculty/ Staff/ Students/ Industry Persons/ Open for All) | **Faculty and Students** |
| 7 | Program Starting Date (dd/mm/yyyy) | **24/11/2023** |
| 8 | Program Ending Date (dd/mm/yyyy) | **24/11/2023** |
| 9 | Program Duration (in hours) | **4:00-5:00** |
| 10 | Event Organized by<br>(Department/ Centre/ Club/ Society/ Group) | **Centre for Mathematical & Financial Computing (C-MFC)** |
| 11 | Name and Contact details of Coordinator(s) | **Dr. Vikas Gupta** |
| 12 | Details of External Partner or Sponsoring Body/ Organization, if any? | - |
| 13 | Mode of Conduction (Online/ Offline/ Hybrid) | **Hybrid** |
| 14 | Venue of the Event | **LT-05** |
| 15 | Details of Participants<br>(Please attach hard copy of the list of participants)<br>- | |

| | |
|---|---|
| No. of Internal Students | 19 |
| No. of Internal Faculty | 11 |
| No. of Internal Staff | - |
| No. of External Students | - |
| No. of External Faculty | - |
| No. of External Staff | - |
| No. of Industry Persons | - |
| No. of International Participants | - |

| | | | |
|---|---|---|---|
| | | **Total Participants** | 30 |

| | | |
|---|---|---|
| 16 | Details of Invited Speakers/ Experts/ Industry Persons (Name, Designation, Organization Name) | **Prof. A.K. Nandakumaran (Chairman, Department of Mathematics, IISc Bangalore)** |
| 17 | Funding details | Expenses from the Institute Fund: **5000**<br>Grant received from Sponsoring or Partnering Body/ Organization:<br>Grant received from Govt. Bodies: -<br>**Total Expenditure: 5000** |
| 18 | Details of the Winners along with Prize details? in case of Competition/ Hackathon/ Debate/ Sports event | - |
| 19 | Brief note about the event | **Attached** |
| 20 | Program Outcome? If any | |
| 21 | Google Drive Link of Geotagged and Simple Photographs (Please upload photographs on your google drive and share the link here with editing rights) | |

**Important Notes:**

1. Please capture some **geo-tagged** photographs along with **simple photographs**
2. Please provide signed list of participants along with soft copy in excel/ word format
3. Please provide copy of the Participation Certificates, if issued to participants

**Soft copies of the report, photographs (both geo-tagged and simple), certificates issued to participants are to be mandatorily sent to** events@lnmiit.ac.in

**Signed hard copies of the same are also to be submitted to IDAAR Cell.**

**Date of report submission:** _____

**Dr. Vikas Gupta**

**Name and Signature of the Coordinator(s)**

# PDE as a Topic of Analysis
# History and Developments Prior to Modern Study*

Nandakumaran, A. K.
Department of Mathematics
Indian Institute of Science
Bangalore- 560 012
India.
Email: nands@math.iisc.ernet.in

Abstract

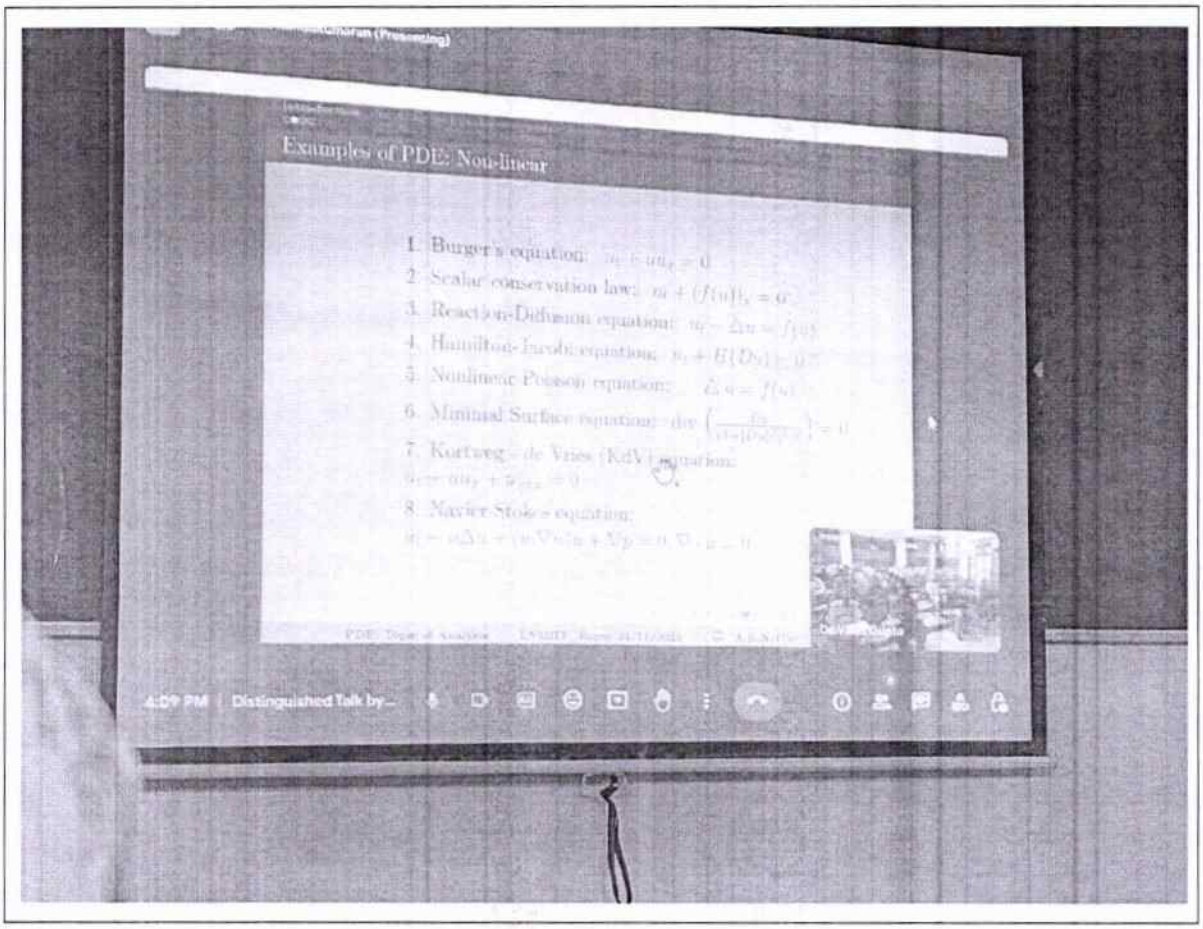
We will present a very general talk, where we address some history in the development of partial differential equations (PDE). On the way, we will see several PDEs of importance and see why modern mathematics is important to deal with problems arising in science and engineering. The main idea of the talk is to convince the audience about the myth that PDE is a topic of problem solving with few artificially designed methods leading to the importance of studying mathematics. We will see how the study of partial differential equations (PDE) became a topic of analysis. Indeed, we restrict ourselves to the old era prior to the 1950s. The scenario of studying PDEs has completely changed from the middle of the last century and discussing the developments after the 1950s, even briefly, requires more time and mathematical maturity.

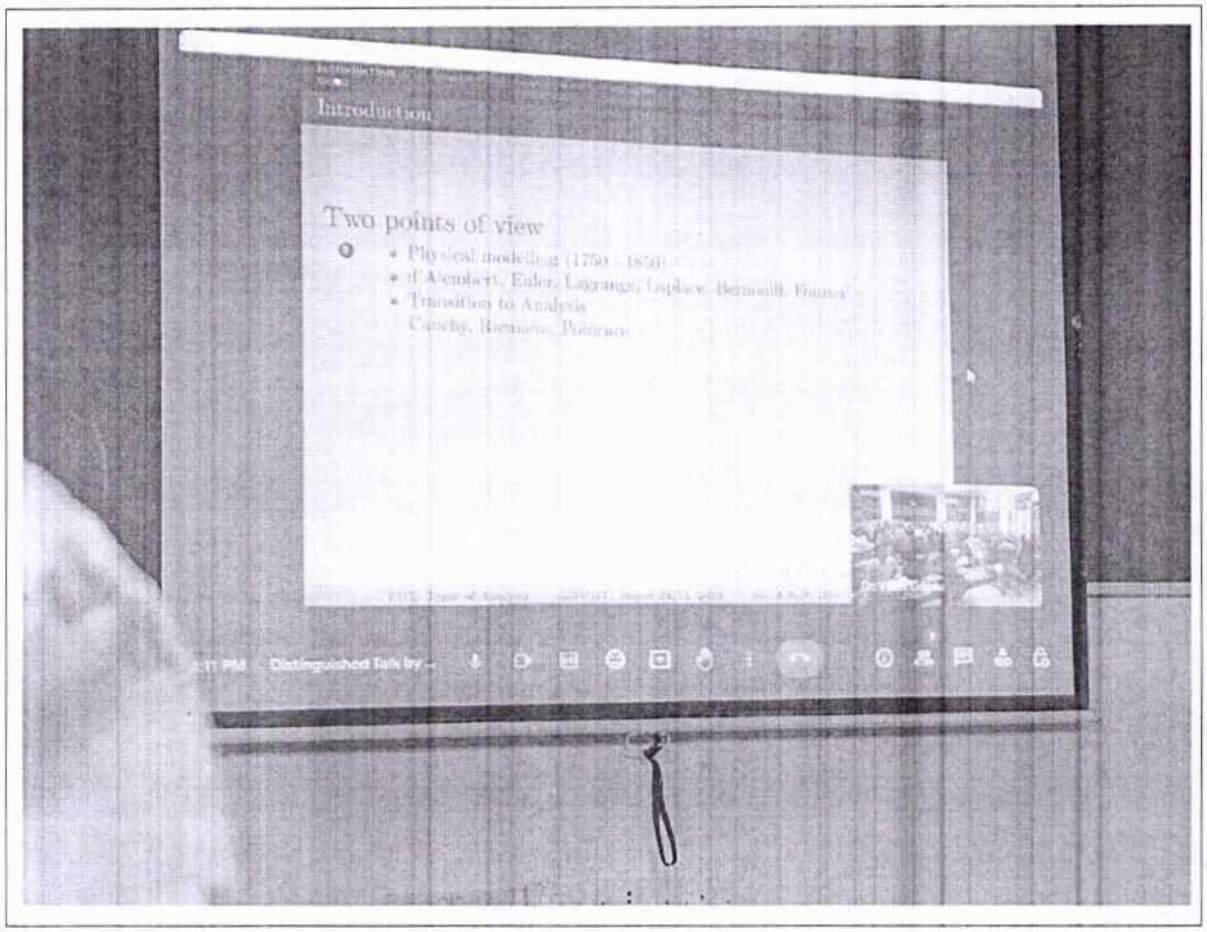
*The talk to be delivered at Department of Mathematics, The LNM Institute of Information Technology, Jaipur-302031, Rajasthan (India). on November 24, 2023.

Prof. NandaKumaran's Talk

24/11/23 4:00PM - 05:00PM

| S.No. | Name | Roll No. | Signature |
|---|---|---|---|
| 1. | Dr. Vikas Gupta | | |
| 2. | Ajit Patel | | |
| 3) | Shishir S.D | 23MMT007 | |
| 4. | Pranay R.K. | 22MMT002 | |
| 5 | Amit Gupta | 22MMT001 | |
| 6 | Deepak Singh | 19PMT005 | |
| 7 | Avinash Kumar | 19PMT001 | Avinash. |
| 8 | Aditya Shukla | 23UCC508 | Aditya |
| 9 | Sanjay | 19PMT002 | Sanjay |
| 6 | Shalu | 22PMT001 | |
| 7) | RANJIT KUMAR | 19PMT003 | |
| 8) | Kezia | 18PMT001 | Kezia |
| 9) | Shobha | 19pmt006 | Shobha |
| 10) | Kaveri Padi Tripathi | 22PMT002 | |
| 11) | Uddeshaya Kumar | 18PMT004 | |
| 12) | Ajay Kumar | 19PMT004 | |
| 13. | B. Mitra | 22MCS004 | |
| 14. | Sudipta Chowdhury | | |
| 15] | Omprakash G. Jangid | 23PMT001 | |
| 16) | Mayank Singh | | |


Examples of PDE: Non-linear
1. Burger's equation:
2. Scalar conservation law:
3. Reaction-Diffusion equation:
4. Hamilton-Jacobi equation:
5. Nonlinear Poisson equation:
6. Minimal Surface equation:
7. Korteweg – de Vries (KdV) equation:
8. Navier Stoke's equation:
4:09 PM | Distinguished Talk by...


Introduction
Two points of view
Distinguished Talk by –