

Collaborative Research Symposium on Mathematics

Participating Institutes

IIT
Hyderabad



University of
Hyderabad



BITS Pilani
Hyderabad



Mahindra
University



Symposium Schedule (10:00 - 13:00)

Venue: Lecture Hall Complex - LHC 08 (10.00-12.00)

| Talk | Time | Speaker | University | Title |
|----------------|---------------|-----------------------|----------------|---|
| General Talk 1 | 10:00 – 10:45 | Prof. Ashok Vaikuntam | BITS Hyderabad | Computational Analysis Led Design in Manufacturing Industry |

Tea Break (10:45 – 11:15)

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|----------------|---------------|------------------|---------------|--|
| General Talk 2 | 11:15 – 12:00 | Prof C.S. Sastry | IIT Hyderabad | Supervised Learning: Theory and Applications |
|----------------|---------------|------------------|---------------|--|

Parallel Sessions (12:20 – 13:00)

Venue: Department of Mathematics Building, Ground Floor - Room MA01

| Talk | Time | Presenter | University | Title |
|--------|---------------|----------------------|---------------------|--|
| Talk 1 | 12:20 – 12:40 | Ms. Padmaja Yinukula | Mahindra University | Fractional Partial Differential Equations for Multiplicative Noise Removal |
| Talk 2 | 12:40 – 13:00 | Mr. Pankaj Patel | BITS Hyderabad | The Mordell-Weil rank and 2 Selmer rank of a family of elliptic curves |

Venue: Department of Mathematics Building, Ground Floor - Room MA02

| Talk | Time | Presenter | University | Title |
|--------|---------------|----------------------|---------------------|--|
| Talk 1 | 12:20 – 12:40 | Mr. Vidushi Tripathi | Mahindra University | Controllability of Fractional Differential Systems |
| Talk 2 | 12:40 – 13:00 | Mr. K. Ashok Kumar | IIT Hyderabad | Shape Variations via Polarizations |

Lunch Break (13:00 – 14:15)

Symposium Schedule (12:20 - 15:20)

Parallel Sessions (14:20 – 15:20)

Venue: Department of Mathematics Building, Ground Floor - Room MA01

| Talk | Time | Presenter | University | Title |
|--------|---------------|---------------------------|-------------------------|--|
| Talk 3 | 14:20 – 14:40 | Mr. A. Sreedhar | Mahindra University | RBF based BDF methods for stiff differential equations |
| Talk 4 | 14:40 – 15:00 | Ms. Ashwini Soundararajan | BITS Hyderabad | Transient analysis of renewal input multi server queuing model with infinite buffer |
| Talk 5 | 15:00 – 15:20 | Mr. Soumak Nag | University of Hyderabad | Asymptotic behavior of an age-structured SIS model with nonlinear force of infection |

Venue: Department of Mathematics Building, Ground Floor - Room MA02

| Talk | Time | Presenter | University | Title |
|--------|---------------|---------------------------|-------------------------|---|
| Talk 3 | 14:20 – 14:40 | Mr. Karthik Tathe | BITS Hyderabad | Generalised stochastic process |
| Talk 4 | 14:40 – 15:00 | Mr. Atanu Manna | IIT Hyderabad | Existence of a non-radial solution for a semilinear elliptic equation on hyperbolic space |
| Talk 5 | 15:00 – 15:20 | Ms. Dimple Satya Sri Dadi | University of Hyderabad | Oscillatory Stokes Flow Past a Sphere with Slip Boundary Conditions |

Tea Break (15:20 – 15:40)

Symposium Schedule (15:40 - 17:30)

Parallel Sessions (15:40 – 17:30)

Venue: Department of Mathematics Building, Ground Floor - Room MA01

| Talk | Time | Presenter | University | Title |
|---------|---------------|----------------------|---------------------|--|
| Talk 6 | 15:40 – 16:00 | Mr. Shubham Upadhyay | Mahindra University | Limiter based entropy stable WENO scheme for relativistic hydrodynamic equations |
| Talk 7 | 16:00 – 16:20 | Mr. Sayantan Ghosh | BITS Hyderabad | Observational status of late time acceleration from Mathematics to Physics |
| Talk 8 | 16:20 – 16:40 | Mr. Sumit Mishra | Mahindra University | RBF-HFD method for elliptic PDE problems with optimal shape parameter selection |
| Talk 9 | 16:40 – 17:00 | Ms. Madhumita Nath | Mahindra University | Multiquadric based RBF-HFD approximation formulas and convergence properties |
| Talk 10 | 17:00 – 17:20 | Mr. Aniruddha Saha | IIT Hyderabad | Free resolutions of symmetric algebras of certain classes of ideals of deviation 3 |

Venue: Department of Mathematics Building, Ground Floor - Room MA02

| Talk | Time | Presenter | University | Title |
|----------------|---------------|-------------------------------------|----------------|--|
| Talk 6 | 15:40 – 16:00 | Mr. Saurabh Mishra | IIT Hyderabad | A p-value aggregation approach to robust gene–environment interaction testing |
| Talk 7 | 16:00 – 16:20 | Ms. Akanksha Sahu | BITS Hyderabad | Gallai's path decomposition of levigraph |
| Talk 8 | 16:20 – 16:40 | Ms. Dwipanjana Shit | IIT Hyderabad | A class of Drinfeld \mathbb{A} -modules of rank 3 with surjective Galois representations |
| Talk 9 | 16:40 – 17:00 | Mr. Puspendu Nag | IIT Hyderabad | 2*2 Block AN-Operators |
| Talk 10 | 17:00 – 17:20 | Mr. Akash Sen | IIT Hyderabad | Introduction to Generative AI |
| Vote of Thanks | 17:20 – 17:30 | Vote of Thanks followed by High Tea | | |