

Week 1

| | Monday (8th June) | Tuesday (9th June) | Wednesday (10th June) | Thursday (11th June) | Friday (12th June) |
|----------------|------------------------------|-------------------------------|----------------------------------|---------------------------------|-------------------------------|
| 09:15 to 09:30 | Opening remarks | | | | |
| 09:30 to 10:00 | Lecture: DSA | Lecture: DSA | Lecture: DSA | Lecture: DSA | Lecture: DSA |
| 10:00 to 10:30 | | | | | |
| 10:30 to 11:00 | | | | | |
| 11:00 to 11:30 | Break | Break | Break | Break | Break |
| 11:30 to 12:00 | Tutorial: DSA | Tutorial: DSA | Tutorial: DSA | Tutorial: DSA | Tutorial: DSA |
| 12:00 to 12:30 | | | | | |
| 12:30 to 13:00 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 13:00 to 13:30 | | | | | |
| 13:30 to 14:00 | | | | | |
| 14:00 to 14:30 | | | | | |
| 14:30 to 15:00 | Lecture: DSA | Lecture: DSA | Lecture: DSA | Lecture: DSA | Lecture: DSA |
| 15:00 to 15:30 | | | | | |
| 15:30 to 16:00 | | | | | |
| 16:00 to 16:30 | Break | Break | Break | Break | Break |
| 16:30 to 17:00 | Tutorial: DSA | Tutorial: DSA | Tutorial: DSA | Tutorial: DSA | Tutorial: DSA |
| 17:00 to 17:30 | | | | | |

DSA : Data Structures and Algorithms

Week 2

| | Monday (15th June) | Tuesday (16th June) | Wednesday (17th June) | Thursday (18th June) | Friday (19th June) |
|----------------|-------------------------------|--------------------------------|----------------------------------|---------------------------------|---|
| 09:30 to 10:00 | Lecture: PA | Lecture: PA | Lecture: PA | Lecture: PA | Lecture: PA |
| 10:00 to 10:30 | | | | | |
| 10:30 to 11:00 | | | | | |
| 11:00 to 11:30 | Break | Break | Break | Break | Break |
| 11:30 to 12:00 | Tutorial: PA | Tutorial: PA | Tutorial: PA | Tutorial: PA | Tutorial: PA |
| 12:00 to 12:30 | | | | | |
| 12:30 to 13:00 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 13:00 to 13:30 | | | | | |
| 13:30 to 14:00 | | | | | |
| 14:00 to 14:30 | | | | | |
| 14:30 to 15:00 | Lecture: AnA | Lecture: AnA | Lecture: AnA | Lecture: AnA | <i>Error correcting codes from polynomials (Mrinal Kumar, TIFR)</i> |
| 15:00 to 15:30 | | | | | |
| 15:30 to 16:00 | | | | | |
| 16:00 to 16:30 | Break | Break | Break | Break | Break |
| 16:30 to 17:00 | Tutorial: AnA | Tutorial: AnA | Tutorial: AnA | Tutorial: AnA | Closing Ceremony |
| 17:00 to 17:30 | | | | | |

PA: Probabilistic Algorithms
 AnA: Algebra and Applications

Invited talk by Mrinal Kumar
(19th June, 2:30PM to 4PM, LH-01)

Title: Error Correcting Codes from Polynomials

Abstract:

Polynomials over finite fields have played a fundamental role in the theory (and practice) of error correcting codes since the 1950s, with Reed-Solomon codes being perhaps the most well known example of the use of algebraic ideas in coding theory.

In this talk, we will discuss some more families of error correcting codes that are constructed using polynomials and study their rates and relative distance. Such families include classical examples like Reed-Muller codes and Multiplicity codes as well as some recently constructed families.

Part of the talk will be based on joint work with Swastik Kopparty and Harry Sha.

Speaker bio:

Dr. Mrinal Kumar is presently a faculty member in the School of Technology and Computer Science (STCS) at the Tata Institute of Fundamental Research (TIFR) in Mumbai. His expertise spans multiple areas, with works that have made impactful contributions to Complexity Theory, Coding Theory, Algebraic Algorithms, to name a few.

He completed his B.Tech. in CSE from IIT Madras, and obtained his Ph.D. from Rutgers University. He spent his postdoc years at Harvard University, Simons Institute for Theory of Computing, and the University of Toronto. He was also a faculty member in the CSE department at IIT Bombay, before moving to TIFR.