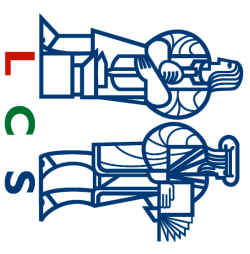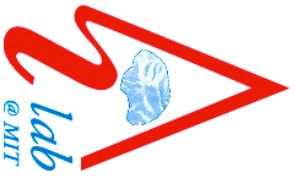Madhu Sudan

# Project Overview
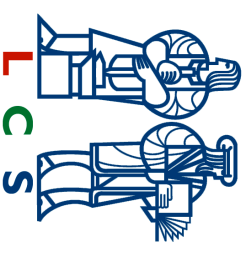
- **(Broadly) Algorithms & Information Theory**
- **(Focus) Algorithms for error-correction**
  — To correct errors in communication media
    - More errors
    - More efficiently
    - For more codes
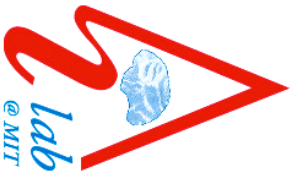  — Using list-decoding

**Madhu Sudan**
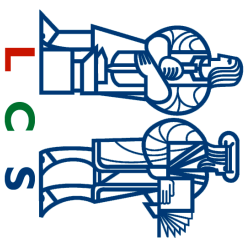
# Progress Through June 2002

- **Locally testable codes**
  – A new definition
  – Existential results
  – Impossibility results

- **Decoding more errors**
  – Beyond the list-decoding barrier?
  – Random errors

- **Award: Sprowl Award - Guruswami Thesis**

**Madhu Sudan**

# Research Plan for the Next Six Months

- **Pending issues:**

  — More efficient algorithms for list-decoding

  — Watermarking applications

  — Tree Codes

- **New issues:**

  — Constructions of locally testable codes.

  — Asymptotically good locally testable codes?