

## Dr. M. Manickam



Date of Birth : 28-12-1958  
Nationality : Indian  
Designation : **Lecturer (Selection Grade)**  
Marital status : Married  
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Academic qualification : 1. M.Sc (Mathematics), University of  
Madras (1983)  
2. M.Phil (Mathematics), University of Madras (1984)  
3. PhD (Mathematics), University of Madras (1990)

Subject : Number theory

Title of the Thesis : 1. On The Ramanujan Tau Function (M.Phil Thesis)  
2. On new forms of Half-Integral Weight and some problems on Modular  
Forms (PhD Thesis)

Academic experience : Lecturer in Department of Mathematics,  
Ramakrishna Mission Vivekananda College, Chennai – 04, since 1st  
November 1989.  
1. November 1989 to September 1994 - Lecturer  
2. October 1994 to March 1998 - Lecturer (Senior scale)  
3. Since April 1998 – Lecturer (Selection grade)

### Research Projects:

Worked as the principal investigator (B.Ramakrishnan, MRI Alahabad, as Co-investigator) for a NBHM research project : ‘The study of Jacobi forms of higher degree’ at Department of Mathematics, Ramakrishna Mission Vivekananda College, Chennai since November 1998.

Mr. B.Hariharan is working under me as a JRF/SRF in the project ‘The study of Jacobi forms of higher degree’ at Department of Mathematics, Ramakrishna Mission Vivekananda College, Chennai.

### Research Students:

Guiding following students for their Ph.D.

- Mr. B.Hariharan part time research student.

- T.Jagadeesan and K.Kumarasami as part time candidates, submitted their thesis for Ph.D.
- Guided more than twenty students and guiding students for their M.Phil degree.

#### Book Writing

- ✓ Writing a book on Abstract Algebra for beginners.
- ✓ Writing a book on Modular Forms

#### Orientation and Refresher Courses conducted by Academic Staff College UGC

1. Attended four weeks orientation course conducted by Academic Staff College University of Madras.
2. Attended four weeks refresher course conducted by Academic Staff College of Bharathidasan University.
3. Attended four weeks international conference equivalent to refresher course conducted by University of Pune.

#### Other Academic activities

1. Presented guest lectures in various Schools and Colleges.
2. College council member during 2001-2002.
3. Staff-in-charge of Mathematics association of Department for several years.

#### International Conference Attended:

- Attended the summer school on 'Automorphic forms' at Nice, France during September 1992 conducted by CIMPA.
- Attended the conference on 'Discrete Mathematics and number theory', Trichy India during January 1996.
- Attended the summer school on 'Elliptic Curves', ICTP, Trieste, Italy during August 1997.
- Attended and delivered a lecture 'On Hecke theory of Jacobi forms' at International conference, TIFR, Mumbai during December 1998.
- Attended and delivered three lectures on Basic aspects of Modular forms in the Workshop on Advanced aspects of Algebraic number theory at MRI, Allahabad, Nov. 2000.
- Attended and delivered a lecture on Skew holomorphic Jacobi forms in the International conference at MRI, Allahabad Nov. 2000.
- Attended and delivered a lecture on Eisenstein series for Jacobi forms in the International meeting at Luminy, France during last week of September, 2001.
- Attended several National Conference in India and delivered a lecture On Fourier coefficients of Hecke eigenforms for half integral weight modular form in the UGC sponsored number theory conference conducted by department of Mathematics Vivekananda college, Chennai.
- Attended the Number Theory conference at NIAS, IISE, Bangalore from December 13<sup>th</sup> to 15<sup>th</sup>, 2003.
- Attended and Presented a talk on square free Fourier Coefficients of half-integral weight modular forms in the National UGC sponsored Conference Conducted by the Department of Mathematics RKM Vivekananda College October 1999.
- Attended and presented a talk on p-adic Modular forms in the International Conference Conducted in the Department of Mathematics RKM Vivekananda College December 2003

- Attended and Presented a Valedictory address on Historical developments and some applications of modular forms in the UGC sponsored National Seminar on Recent Trends in Applied Mathematics Conducted by the Department of Mathematics Gobi Arts and Science College October 2005.

#### International Conference Organised:

Organised the following conference as a convener and academic secretary funded by NBHM, DAE, India and Tamil Nadu Government.

- International Conference on Number Theory and its application, 27-29 December, 2006, RKM Vivekananda College, Chennai.

One of the organising committee members for the following.

- Planning as a satellite conference funding by DAE/DST to organise 17 days international workshop followed by 2 days international conference during October, 2010.

#### Academic International Visits:

- Visited Max plank Institute, Bonn, Germany and University of Munster, Germany for research work during 1992.
- Visited ICTP, Trieste, Italy during June, July and August 1997 as young scientist.
- Visited Dept. of Mathematics, University of Toronto, Toronto, Canada in 2000, 2006, 2007 and 2008 during May and June.
- Visited Dept. of Mathematics, University of National University of Singapore, Singapore during 1st week of June, 2000.
- Visited Dept. of Mathematics, University Paris13, Paris, France during October, 2001.
- Participated in the ICM, Spain, during September 2006 for two weeks.
- Visited Dept. of Mathematics, University of Zeigen during first week of June, 2008.

#### Academic National Visits:

- o Visited TIFR, Mumbai several times.
- o Visited HRI, Allahabad several times.

#### List of Publications:

1. Hecke operators on modular forms of half-integral weight, (with B.Ramakrishnan & T.C.Vasudevan), Arch. Math.51 (1988) 343-352.
2. On Shintani correspondence, (with B.Ramakrishnan & T.C.Vasudevan), Proc. Indian Acad. Sci.99 (1989) 235-247.
3. On the theory of new form of half-integral weight, (with B.Ramakrishnan & T.C.Vasudevan), J.Number Theory 34(1990) 210-224.
4. Diagonalising modular forms of half-integral weight, (with B.Ramakrishnan & T.C.Vasudevan), J.Number Theory 40(1992) 32-37.
5. On a remark of Atkin-Lehner, (with B.Ramakrishnan & T.C.Vasudevan), J.Number

- Theory 40(1992) 251-253.
6. Addendum to 'on the theory of new forms of half-integral weight, (with B.Ramakrishnan & T.C.Vasudevan), J.Number Theory 42(1992) 369-371.
  7. On Saito-Kurokawa descent for the congruence subgroups, (with B.Ramakrishnan & T.C.Vasudevan), Manuscripta Math. 81(1993) 161-182.
  8. Appendix: On normalized modular forms of weights 20, 24, 28 with non-negative Integral Fourier coefficients (with B.Ramakrishnan) Math.Comp.66 (1997) No219, 1180-1183.
  9. On Shimura, Shintani and Eichler-Zagier correspondence, (with B.Ramakrishnan) to Trans. Amer. Math. Soc., vol. 352, No. 6, (2000) 2601-2617.
  10. On Saito-Kurokawa correspondence of degree two for arbitrary level, (with B.Ramakrishnan) J.Ramanujan Math. Soc. 17, No.3 (2002) 1-12.
  11. An Estimate for a certain average of the special values of character twists of Modular L-Functions (with B.Ramakrishnan) proceedings of the American Mathematical Society, Volume 133, No.9, Pages 2515-2517 (2005).
  12. On the Eichler-Zagier map of Jacobi forms of half-integral weight (with B.Ramakrishnan). Pacific J. Math. 227(2006), no. 1, 143-150.
  13. On a conjecture of Zagier (with Sanoli Gun and B.Ramakrishnan) submitted for publication.
  14. An explicit estimate for the Fourier coefficients of an arbitrary cusp form and exceptions of integral Quadratic forms preprint.
  15. On Taylor expansion of Jacobi forms of half-integral weight (with K.Kumaraswamy). Published in JRM.
  16. On Shimura correspondence of forms of half-integral weight in Kohnen plus space for arbitrary odd level (with T.Jegadesan).Published in JRM.
  17. Eisenstein series for Jacobi forms of half-integral weight for arbitrary level preprint.
  18. On Shimura and Eichler-Zagier maps for Skew holomorphic Jacobi forms of integral and half-integral weight preprint.
  19. Twisted Averages of L-Functions (with V.Kumar Murty and B.Ramakrishnan) preprint.
  20. A lift from Elliptic Modular Forms to Siegel Modular Forms of degree 2 in preparation.

#### Expository Articles:

- On Hecke theory of Jacobi forms, Cohomology of Arithmetic groups, L-functions and Automorphic Forms (Mumbai 1998/1999), 89-93, Tata Ins. Fund. Res. Mumbai, 2001.
- On Skew holomorphic Jacobi forms Current trends in Number Theory, HRI, Allahabad, November 2000, 85-89, Hindustan Book Agencies, New Delhi, 2002.
- An introduction to Modular Forms and Hecke operators, (with B.Ramakrishnan), in Elliptical curves, Modular Forms and Cryptography, Hindustan Book Agencies (2003), 223-245.

#### Orientation and Refresher Courses conducted by Academic staff college UGC:

- Attended four weeks orientation course conducted by Academic staff college University of Madras.
- Attended four weeks refresher course conducted by Academic Staff College of Bharathidasan University.
- Attended four weeks international conference equivalent to refresher course conducted by University of Pune.

- Attended a UGC sponsored Refresher Course in Mathematics at Annamalai University, Chidambaram from 5<sup>th</sup> June, 2002 to 25<sup>th</sup> June, 2002.

Other Academic activities:

- ✓ Presented guest lectures at schools and colleges.
- ✓ College council member during 2001-2002.
- ✓ Staff in-charge of Mathematics association of the Department for the last two years.
- ✓ Member and convener of IQAC.
- ✓ Associate member HRI, Allahabad for three years from October 2005