

Rohini M. Godbole

(url of the homepage: <http://cts.iisc.ernet.in/Personnel/pages/rohini/index.html>)

Date of Birth: 12 th November 1952.

Academic career and Professional Attainments:

(a)Degree	University/Institution	Year	Remarks
B.Sc. (Physics)	University of Pune,India	1972	First Rank
M.Sc. (Physics)	Indian Inst. of Technology, Bombay,India	1974	First Rank Institute Silver Medal
Ph.D. (Physics)	S.U.N.Y. at Stony Brook N.Y., U.S.A.	1979	

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**(b) Awards and Special Attainments**

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1. Devi Award of the New Indian Express Group, August 2015.
2. Stree Shakti Awardee of the Aditya Pratishthan, Pune, India, April 2015.
3. Invitee for the C.V. Raman Lecture of the Department of Atomic Energy (DAE) organized by the Indian Physics Association (IPA), Mount Carmel College, Bangalore chapter of IPA, January 2015.
4. D.A.E. Raja Ramanna Lecture Invitee, J.N. Centre for Advanced Scientific Research, October 2014.
5. Awarded D. Litt. (Honoris Causa) by the S.N.D.T. Women's University- one of the first Women's University in South East Asia-, Mumbai, December 2013.
6. Elected Staff Associate of the Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (2013-2015).
7. C.V. Raman Mahila Vijnana Puraskara of the Matru Vedike of the Swadeshi Vijnana Andolana-Karnataka, 2010.
8. Elected fellow of the Academy of Sciences of the Developing World (TWAS) (2010).
9. Satyendranath Bose Medal for Theoretical Physics of the Indian National Science Academy, 2008.
10. J.C. Bose fellowship of the Department of Science and Technology of India, 2008-2018.
11. Meghnad Saha Medal for Theoretical Physics of the Asiatic Society, 2007.
12. Elected Fellow of the National Academy of Sciences, Allahabad, India (2007).
13. MSIL Chair for Physical Sciences, Indian Institute of Science, Bangalore, October 2006-October 2009.
14. Rustom Choksi Award for Excellence in Research in Science of the Indian Institute of Science (2006)

15. Awarded the 'Jawaharlal Nehru Centenary Visiting Fellowship' of the Indian National Science Academy (2005).
16. Awarded the Distinguished Alumnus Award by the Indian Institute of Technology, Powai, India (2004).
17. Elected Fellow of the Indian National Science Academy, Delhi (2003).
18. Invited to present the plenary talk in the 'International conference on Women in Physics' held by IUPAP (March 2001) in Paris as the 'Asian' success story.
19. Awarded the Sheel Memorial Award for the Best Woman Scientist Lecture-2000, National Academy of Sciences, India, (2000).
20. Elected Fellow of Indian Academy of Sciences, (1992).
21. Elected Young Associate of Indian Academy of Sciences, (1985-1988).
22. Associate Member of the International Centre for Theoretical Physics: (1984-1992) (1995-2001).

### **Summary of information regarding publication:**

*In the INSPIRE-HEP data base she has 306 papers out of which 265 are citable (published or ArXiv preprints/e resources) and 145 out of them are published only. Out of these 145, 2 have citations more than 500, 4 have citations more than 250 and 7 are cited more than 100 times. The average citation for these 145 is 47.2 and goes to 41.1 after excluding self cites. The H-index is 42 and becomes 36 after removing the self cites. The INSPIRE data base counts citations of a publication when it is still an arXiv preprint and also citations in ArXiv Preprints as well as internal experimental documents. The latter are refereed but not published in journals. From the Web of Science which only counts Citations of journal publications in journal publications the 'H' index is 34 instead of 36 above. Just as comparison, in INSPIRE-HEP data base the citations for the top paper in Phys. Rept. 426 (2006) 47 are 527 to be compared with the ones in Web of Science the number is 272. The top cited paper in Web of Science is Physics Reports, 299 (1998) and has 304 citations whereas in INSPIRE-HEP it has 497 citations.*

*She has published a text book on 'Phenomenology of supersymmetric particles' for Ph.D. students and researchers in area of High Energy Physics in January 2005. The book is already in its second edition, both paper back and hard cover. It was selected by the World Scientific Publishers as one of their significant titles in High Energy Physics in a poster they bought out for display at CERN to celebrate the 25 th Anniversary of World Scientific. She is also writing a book on the Standard Model to be published by Cambridge University Press.*

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### **(c) Other relevant information:**

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#### *1) Professional Positions:*

1. June 1998 -Present Professor (Chairperson till March 2002), Center for Theoretical Studies(Centre for High Energy Physics), Indian Institute of Science, Bangalore.
2. November 1995 - June 1998 Associate Professor (Chairperson since Aug. 1996), Center for Theoretical Studies, Indian Institute of Science, Bangalore.
3. Dec.1987 - November 1995, Reader, Department of Physics, University of Bombay.

4. November 1982 - December 1987 Lecturer, Department of Physics, University of Bombay.
5. Aug. 1982 - November 1982, CSIR Research Associate, Institute of Science, Bombay.
6. Sept. 1979 - August 1982, Visiting Fellow, Tata Institute Of Fundamental Research, Bombay.

2) *Visiting Positions:*

1. Staff Associate, International Centre for Theoretical Physics, Trieste, Italy (2013-2016).
2. Feb 2011 - August 2011, Visiting Professor, Univ. of Utrecht, The Netherlands.
3. June 2010 - Feb 2011, Scientific Associate, CERN Theory Division, CERN, Geneva, Switzerland.
4. Adjunct faculty of the Tata Institute of Fundamental Research, Mumbai: Department of Theoretical Physics and International Centre for Theoretical Sciences, 2005-2010.
5. A number of visiting positions of duration between one and three months at various times at: CERN (Geneva), DESY(Hamburg), Madison(Wisconsin), ICTP (Trieste), LNF-INFN(Frascati), Hawaii(USA), LAPTH, Annecy, France, LPT, Orsay, France.
6. June 1986 - June 1988, Department of Physics, University of Dortmund, Dortmund, W. Germany.
7. May 2002 - Nov. 2002, Scientific Associate, CERN, Geneva, Switzerland,
8. Dec. 2002 - May 2003, DESY, Hamburg, Germany.

3a) *Courses taught:*

- At University of Mumbai:
  1. Mathematical Physics (core course), at Masters Level, five times
  2. Relativistic Quantum Mechanics (elective), at Masters Level, four times.
  3. Statistical Mechanics, at Masters level (core course), three times.
  4. Advanced Nuclear Physics, at Masters level (elective), three times.
- At Indian Institute of Science:
  1. Nuclei and Particles, Core course for Integrated Ph.D. Program in Physical Sciences, at the Indian Institute of Science', four years.
  2. Quantum Mechanics: III, Core course for Ph.D. students at the Centre for High Energy Physics, Indian Institute of Science, three years.
  3. Gauge Field Theory, Core course for Ph.D. students at the Centre for High Energy Physics, Indian Institute of Science, three years.
  4. Standard Model of Particle Physics, Elective for Ph.D. students at the Centre for High Energy Physics, Indian Institute of Science, five times.
  5. Quantum Mechanics -II, Core Course for Integrated Ph.D. students in Physical Sciences and the Undergraduate Students, at the Indian Institute of Science, Four years.
- At the University of Utrecht:

1. Supersymmetry: basic formalism and collider phenomenology, Six month course taught at University of Utrecht, The Netherlands.
- At short duration schools:
    1. Taught four different courses of 12 lectures each on different aspects of the Standard Model and Collider Physics in the Main School in Theoretical High Energy Physics in India held for graduate students in High Energy Physics, in the past 25 years (1984,1996, 2002,2013). Taught two courses on 'Introduction to Particle Physics' in the preparatory school in the same series of schools (1998, 2000) and also in a similar school for Experimental Particle Physics students. Taught two six hour lecture courses to in the SERC schools for Nuclear Physics in India.
    2. Delivered a set of four lectures on Topics in Electroweak Symmetry breaking and QCD, in a summer school held by the Chinese Academy of Sciences, Beijing, China, 2004.
    3. Delivered a set of two lectures on 'Supersymmetry at Colliders' in 'From Strings to LHC – II', Goa, India, 2007.
    4. Delivered a set of three lectures on Supersymmetry in Algerian Summer School in Oran, Algeria, 2009.
    5. Delivered a set of three lectures on Supersymmetry in Corfu Summer School, 2010.
    6. Delivered twice a six lecture course twice for CERN summer students on 'Introduction to Standard Model' (2011, 2012).
    7. Delivered a set of nine lectures on 'Beyond Standard Model through the window of Electroweak Symmetry breaking', in Vietnam School on Physics, Quy Nhon, Vietnam, 2012.
    8. Delivered a set of four lectures on Higgs Physics at the Pre SUSY school before SUSY 2013, held at Trieste, Italy.
    9. Delivered a set of four lectures on Supersymmetry Phenomenology at the Pre SUSY school before SUSY 2014 held in Manchester, U.K.
    10. Delivered a set of four lectures on the Standard Model at the Asia Europe Pacific School on High Energy Physics (AEPSHEP2014) held at Puri in November 2014.
    11. Invited to talk at the triennial ICFA (International Committee for future Accelerators) seminar held in Beijing in October 2014 on the Standard Model (theory) .

She is a sought after lecturer to talk about particle physics at all levels: at a popular level to general public, at a simple level for students and at a higher technical level for scientists who are not particle physicists or perhaps not even physicists and of course at technical level to particle physicists themselves. Just to give an idea, in the two years since 2012 July, after the announcement of the new boson at the LHC, she gave 24 popular talks and nine colloquia on the topic of the Higgs and LHC physics, to be added to it are 27 Technical invited talks on the subject of the Higgs boson, the Top quark and BSM Physics at the LHC!!

4) *Research Projects(International):*

1. Collaborative Research projects: INDO-US project ‘Physics at the current and future colliders’, with Univ. of Hawaii
2. Indo-French Project ‘Collider Physics’, with a C.N.R.S. Laboratory for High Energy Physics: LAPP(Annecy).
3. Indo-French Project ‘Supersymmetry, Higgs Bosons and CP violation: Implications for High Energy Colliders and Astrophysics’, with Univ. of Montpellier and C.N.R.S Laboratory LAPP (Annecy).
4. Virtual Centre for Beyond Standard Model Physics, a project supported by the INDO US STF. Collaborating Universities: Indian Institute of Science, Physical Research Laboratory, Harish Chandra Research Institute from the Indian side and Univ. of Hawaii.
5. Joint project on ‘Topics in Top and Higgs Physics’, with F. Maltoni, Univ. of Louvain, Belgium.
6. Co director of the ‘International Associated Laboratory’ , (LIA), between India and France, with F. Boudjema of LAPTH- Annecy, France, 2016-2019.

5) *Membership of Committees:*

1. Committees of International Programs
  - (a) Member, Scientific Council of the Indo-French Center for the Promotion of Advanced Research (CEFIPRA) 2014-now.
  - (b) Member, Linear Collider Board of the Linear Collider Collaboration (2013-now).
  - (c) Member, International Detector Advisory Group for the International Linear Collider, 2007-2012.
  - (d) Member, Commission C11 on Particles and Fields of the International Union of Pure and Applied Physics, 2002–2005, 2008-2011.
  - (e) Member, AASSA (Association of Academies and Societies of Sciences in Asia) (Inaugural) Special committee on women in science and engineering, December 2013-December 2016.
  - (f) Member, Asian Linear Collider Steering Committee, 2006-2009.
  - (g) Member, Indian DST delegation to Bulgaria (2009)
  - (h) Member, Indian Delegation for the Biennial Ministerial meeting between UK and India (2012).
2. Committees of Indian Institutions of research and higher learning.
  - (a) Member, Board of Governors, Indian Institute of Technology, Mumbai. (One of the first two women members of the Board since its inception)(2014-now)
  - (b) Member, Scientific Council of the Indian Statistical Institute, Kolkata, 2014-now.
  - (c) Member, Council of the Indian National Science Academy, January 2011 - January 2013.
  - (d) Member, Academic Council of the University of Hyderabad, 2011-2014.
  - (e) Member, Board of Governors, NIIT-Patna, 2013-2016, 2016-now.
  - (f) Member, Scientific Advisory Council, Inter University Consortium for Astronomy and Astrophysics, IUCAA, Pune, Jan-2004- Dec-2008.

- (g) Member, Review Committees for the Departments of Physics of a) Indian Institute of Technology, Mumbai, b) Indian Institute of Technology, Chennai and c) Indian Institute of Science Education and Research, Mohali, India (2014-2015).
3. Committees of Government of India and govt. organizations.
- (a) Member, DST-DAE coordination Committee for CERN-India cooperation, 2015-now.
  - (b) Member, Scientific Advisory Committee to the Cabinet of India (SAC-C), 2007- 2013.
  - (c) Member, Science and Technology Advisory Committee to the Planning Commission for the 11th plan, 2006-2007.
  - (d) Member, National IUPAP committee, January,2008 – December, 2012.
  - (e) Member, Joint National Committee of IUPAP and IAU, Jan. 2004 to Jan. 2007.
  - (f) Member, Program Advisory Committee,Department of Science and Technology (DST), India, (1997-2000).
  - (g) Member,Expert Committee of Council for Scientific and Industrial Research (CSIR), India (1995-2010).
  - (h) Member DST-DAE(Dept.of Atomic Energy) expert committee for CERN-India Project, 1998-present.
  - (i) Member of the Planning Committee of the S.E.R.C. Schools in Theoretical High Energy Physics, 1994-present, Chair 2005-2010.
4. Indian Committees related to Women in Science
- (a) Member, Standing Committee of Women in Science of the Government of India, 2015-now.
  - (b) Chair, Committee for Physical and Mathematical Sciences, WOS/A scheme of the DST, 2004-2007.
  - (c) (Founding)Chair, Panel for Women in Science of the Indian Academy of Sciences, Bangalore, India (2005-2016).
  - (d) Chair, Panel for Women in Science of the Indian National Science Academy, 2015-now.
  - (e) Member, Joint panel for Women in Science of the Indian National Science Academy, Indian Academy of Sciences and The National Academy of Sciences, India (2014-now).
  - (f) Convener, Committee on Women in Science, of the Indian Academy of Sciences, Bangalore.
  - (g) Member, Committee on Women in Science in India, formed by the Indian National Science Academy, Delhi.
  - (h) Member, National Focus Group on 'Gender in Education', formed by the National Council of Educational Research and Training (NCERT), India.

*6a) Organisation of Research Activity:*

1. Organising towards formation of an 'Indian Working Group(WG) on Linear Collider Physics' under the aegis of ACFA: Asian Committee for Future Accelerators. Managing a DST funded project to coordinate the activities of the Indian Working Group.
2. Coordinator of various Working Groups at five WHEPP (Workshop on High Energy Physics Phenomenology) from 1990–2001.
3. Convener of the R-parity subgroup at the workshop on 'Physics at TeV Colliders',Les Houches, France, June 1999.

4. Convener, Supersymmetry at Linear Colliders, at the International Workshop on Linear Colliders, LCWS04, Paris, March 2004.
5. Convener, 'SUSY04: THE 12th International Conference on Supersymmetry and Unification of Fundamental Interactions', Tsukuba, Japan, June 2004.
6. Convener, 'Top and QCD', International Workshop on Linear Colliders, LCWS05, March 2005, S.L.A.C.,Stanford (U.S.A.).
7. Organising Committee of the two year long 'Workshop on CP studies and non-standard Higgs physics' resulting in CERN Yellow report. May 2003 -May 2005, resulting in a CERN yellow report, which is a reference document on the subject.
8. Convener, 'Top and QCD', International Workshop on Linear Colliders, LCWS and ILC 2007, May-June 2007, Hamburg, Germany.
9. Convener, "Collider Physics Phenomenology and Beyond the Standard Model Physics", International Conference on High Energy Physics, ICHEP08, Philadelphia, USA, July 2008.
10. Convener, Supersymmetry Phenomenology,21st International Conference on Supersymmetry and Unification of Fundamental Interactions, SUSY 2013, Trieste,Italy, August 2013.
11. Convener, Supersymmetry Phenomenology, 22nd International Conference on Supersymmetry and Unification of Fundamental Interactions, SUSY 2014, Manchester, U.K., July 2014.
12. Convener, Session on Women in Science, 50th Anniversary of the Abdus Salam International Centre for Theoretical Physics, October, 2014.
13. Convener, 'Diversity and Inclusion', ICHEP 2016, 38 th International Conference on High Energy Physics, August 2016, Chicago, USA.
14. Convener, SUSY Models, 24th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY), July 2016, Melbourne, Australia.

*6b) Organisation of Symposia, Seminars, Workshops (International):*

1. Involved in the series of several International Workshops on High Energy Physics Phenomenology (WHEPP1 to WHEPP12), right from its inception. Member of the National Organising Committees for almost all of them.
2. Member of the National Organising Committee of the International Conference on Nonaccelerator Particle Physics, Bangalore, Dec. 1993.
3. Member, International Advisory Committee, International Workshop on Linear Collider Physics, LCWS 2000, Fermilab, Batavia, U.S.A. & Organiser of the parallel session on Supersymmetry.
4. Member, Advisory Committee, ICPAQGP, International Conference on Physics and Astrophysics of the Quark Gluon Plasma, Jaipur, November 2001.
5. Member,International Advisory Committee, International Workshop on Linear Collider Physics, LCWS 2002, 25-30 August,2002, Jeju Island,Korea, LCWS04, Paris, April 2004, LCWS05, USA, April 2005, LCWS07 and ILC 2007, Hamburg, LCWS10 - Beijing, China, and LCWS11 - Granada, Spain.
6. Member, Organising Committee, PASCOS, International Symposium on Particle, String and Cosmology, Jan. 2003, Mumbai,India; convener, Higgs Physics, for PASCOS to be held in Taiwan, 2013.

7. Member, Program Advisory Committee, the International Workshop on Physics at TeV colliders, Les Houches, France, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017.
8. Member International Advisory Committee, 'XXI International Symposium on Lepton-Photon Interactions at High Energies ,LP03, Fermilab, Batavia, U.S.A., LP05, Daegu, Korea, LP07, Hamburg, Germany and LP13, San Fransisco.
9. Member, Program Committee of the Meeting of the IUPAP working group on Plagiarism in Scientific Publication and the role of Journals in its prevention, Oct. 2003, London.
10. **Convener, International Workshop On Linear Colliders, LCWS06, March 9-13, 2006, Bangalore, India.**
11. Member, International Advisory Committee, International Conference on Supersymmetry and Unification, SUSY06, Irvine, California, U.S.A., July 2006.
12. Organiser, International Worksop 'From Strings to LHC-I', January 3-10, 2007, Goa, India.
13. Organiser, International Worksop 'From Strings to LHC-II', December 11- 23, 2007. Bangalore, India.
14. Member, International Program Advisory Committee, Hadron Collider Physics Symposium, Galena, Illinois, U.S.A, May 27-31, 2008.
15. Member, Program Advisory Committee, International Conference on High Energy Physics, Paris, July 22-28, 2010.
16. **Organiser, XXV International Symposium on Lepton-Photon Interactions at High Energies, 22-37 August, 2011, Mumbai, India.**
17. Member, International Advisory Committee, Asia-Europe-Pacific School of High Energy Physics (2012-now).
18. Member, Program Advisory Committee, International Conference on High Energy Physics, Valencia, Spain, July 2014.
19. Organiser, 'Indo-French Women in Science seminar through IFCPAR: Indo French Centre for Promotion for Advanced Scientific Research, February 2015.
20. Member, International Advisory Committee, 3rd and (4th) International Conference on New Frontiers in Physics, ICNFP-2014, (ICNFP-2015) August 2014 (August 2015), Kolymbari, Greece.
21. Member, International Advisory Committee, XXVII International Conference on High Energy Lepton Photon Interactions, August 2015, Ljubljana , Yugoslavia.
22. Member, International Advisory Committee, International Meeting on Higgs Coupling, Durham, U.K., October 2015.
23. **Organiser, Indo-French Network (INFRE-HEPNET) Kick off meeting, May 2016, Bangalore, IISc, India.**
24. Member, International Advisory Committee, Precision theory for precise measurements at LHC and future colliders, To be held in Quy Nhon, Vietnam, September-October 2016.
25. Member, International Advisory Committee, Annual International Conference on Large Hadron Collider Physics, To be held in Shanghai, 2016.



6c) *Organisation of Symposia, Seminars, Workshops (National)*

1. Organisation of the workshop on 'Physics beyond Standard Model', Univ. of Bombay, February 1991.
2. Organisation of the workshop on 'Quark Matter in Nuclei' , Tata Inst. of Fundamental Research, April 1991.
3. Member Program Advisory Committee, National Organising Committee etc, for the DAE symposia on high energy physics, held in 1992, 1994, 1996, 1998, 2000.
4. Member, Program Advisory Committee, 'Workshop on Hadron Physics', March 2005, Puri, India.
5. Organiser of numerous national workshops in India.

6d) *Organisation (Educational):*

1. Director, XII S.E.R.C. School in Theoretical High Energy Physics, Held in Bangalore Feb.-March 1997.
2. Editorial Board Member, TRIPS: Texts and Readings in Physical Sciences, Series of books being brought out by Hindustan Publishers.
3. **Organiser and Chair (LOC), 2014 Asia Europe Pacific School of High Energy Physics, AEPSHEP2014, Bhubaneswar, India, November 2014.**

7) *Editorial and referee responsibilities:*

1. Editorial Board Member: Pramana, Journal of Physics, Indian Academy of Science, 1995-1998.
2. **Chief Editor Pramana, Journal of Physics, Indian Academy of Science, 2007-2015 (Associate Editor 1998-2007).**
3. Editorial Board Member Current Science, 1997-2008.
4. Referee for 1)Phys. Lett. B 2)Phys. Rev. D 3)Phys. Rev. Lett. 4)Indian Journal of Physics 5)Journal of Physics G 6)Nucl. Phys. B 7)Z. Phys. C 8)Eur. J. Of Phys. C 9)Pramana 10) Current Science
5. Editor: LHC/LC Report. An international Report brought out to evaluate the synergy between the hadronic high energy collider LHC and the International Leptonic Collider in Planning, the ILC.

8) *Research Supervision:*

- Ph. D. Theses : Three (Bombay University)
- M.Phil. Theses : Three (Bombay University)
- M.S. Theses : Five completed (I.I.Sc.)
- Ph.D. : Seven completed and two in progress (I.I.Sc.)

9) *Science Education:*

1. Guiding two or three summer students every summer for the last twenty under different programs such as the Inter Academy Science Education program, the Kishore Vaigyanik Prohatsan Yojana, INSPIRE scheme of the Department of Science and Technology India. Have had a student from Europe coming to India as a summer student who ended up doing her Master's project with her and published a paper with her!

2. Giving popular lectures at various schools as well as colleges in Pune, Mumbai and Bangalore.
3. Giving lectures in other centres of science education like the planetarium in Mumbai and Bangalore.
4. Participation in training students for physics Olympiad.
5. Participation in interviews for the 'Kishor Vaigyanik Protsahan Yojana'.
6. Participation in paper setting for the CSIR-NET examination.