CURRICULUM VITAE of H. R. KRISHNAMURTHY

Name :	Hulikal R. Krishnamurthy
Work Address :	Department of Physics, Indian Institute of Science, Bangalore 560 012, India Email: hrkrish@gmail.com, hrkrish@physics.iisc.ernet.in Phone: 91-80-2293-3282 or 2360-8658 Fax: 91-80-2360-2602 or 2360-0683
Date of Birth	21 September 1951
Place of Birth :	Bangalore, India
Nationality :	Indian
Marital Status :	Married, One son
Residential Address :	No. 18, 2nd Main Road, U.A.S. Layout, Bangalore - 560 094, India Phone: 91-80-2341-6627, 91-98459-27227

Academic Qualifications:

Degree	University / Institution	Year	Remarks
B. Sc (Hons.) in Physics	Central College, Bangalore University, Bangalore, India	June 1970	I Rank
M. Sc. in Physics	I.I.T., Kanpur, India	June 1972	I Rank
M. S. in Physics	Cornell University, Ithaca, NY, USA	June 1974	
Ph. D in Physics	Cornell University, Ithaca, NY, USA	Jan. 1978*	

(* Completed requirements in Aug. 1976)

Thesis topic: *Renormalization group approach to the Anderson model of dilute magnetic alloys.*

Thesis Adviser: *Professor Kenneth G. Wilson (Nobel Laureate 1982)*

Positions Held:

Year	Position	University / Institution
Sept 1976 -May 1978	Research Associate	Department of Physics, University of Illinois, Urbana, Illinois, USA
Nov 1978 - March 1979	**Research Associate**	**Department of Physics, Indian Institute of Science, Bangalore 560012, India**
Apr 1979 - March 1984	**Lecturer**	
Apr 1984 - March 1990	**Assistant Professor**	
Apr 1990 - March 1996	**Associate Professor**	
Apr 1996 - July 2017	**Professor**	
Aug 2017 -	**Honorary Professor**	
Sept 2010 - Sept 2014	**Chairman**	
Feb 1981 - July 1981	Guest Professor	NORDITA, Copenhagen, Denmark
Sept 1987 - Oct 1988	Visiting Assistant Professor	Physics Department, Ohio State University, Columbus, Ohio, USA
Nov 1988 - June 1989	Visiting Research Staff	Physics Department, Princeton University, Princeton, N.J., USA
Sept 1996 - Mar 1997	Visiting Professor	Physics Department, Ohio State University, Columbus, Ohio, USA
Apr 1997 - June 1997	Visiting Professor	Physics Department, Harvard University, Cambridge, Mass, USA
July 1997 - Oct 1997 April 1998- May 1998	Visiting Professor	Physics Department, University of Cincinnati, Cincinnati, Ohio, USA
Oct 2007 – Jan 2008	Visiting Researcher	Physics Department, University of California, Davis, CA, USA
Feb 2008 – Sept 2008	Visiting Researcher	Physics Department, Georgetown University, Washington, DC, USA
Oct 2014 – Mar 2015	Visiting Professor	Physics Department, University of California, Santa Cruz, CA, USA
April – June 2015	Visiting Research Physicist	Physics Department, University of California, Riverside, CA, USA
July – August 2015	Visiting Researcher	Physics Department, Georgetown University, Washington, DC, USA
Sept – Oct 2015	Visiting Associate	Department of Physics and the Institute for Quantum Information and Matter, California Institute of Technology, Pasadena, CA, USA

Ph.D students and theses supervised:

1. C. K. Leena Chandran (KRSIT, I.I.T., Mumbai, India), *Theoretical Studies on Impurity Models of Mixed Valence*, 1987
2. Mangal C Mahato (Faculty, Physics Dept., NEHU, Shillong, India) (jointly with Prof.s Rahul Pandit and T. V. Ramakrishnan), *Applications of Density -Wave Theory*, 1989
3. Madan Rao (Faculty, Raman Research Institute and also at the National Centre for Biological Sciences, Bangalore, India) (jointly with Prof. Rahul Pandit), *Hysteresis in Model Spin Systems*, 1989
4. Arghya Taraphder (Faculty, Physics Dept., IIT Kharagpur, India)) (jointly with Prof.s T V Ramakrishnan and Rahul Pandit), *Theoretical Studies of Some models of High-Tc Oxide Superconductors*, 1991
5. Surajit Sengupta (Faculty, TCIS, Hyderabad, India) (jointly with Prof. T. V. Ramakrishnan), *Studies in the density functional theory of freezing: relative stability of F.C.C. & B.C.C. structures; colloids, interfaces and the flux lattice in high Tc superconductors*, 1992
6. Jaydeb Chakrabarti (Faculty, SNBNCBS, Kolkata, India) (jointly with Prof.s T V Ramakrishnan and A. K Sood), *Density Functional and Computer Simulation Studies of Colloidal Suspensions*, 1995
7. Pinaki Majumdar (Faculty, HRI, Allahabad, India), *Mott-Hubbard phenomena : Studies within the local approximation*, 1997
8. Chinmay Das (Research Fellow, School of Mathematics, University of Leeds, Leeds, U.K) (jointly with Prof. T V Ramakrishnan), *Theoretical Studies of Laser Modulated Colloids*, 2001
9. N. S. Vidhyadhiraja (Faculty, JNCASR, Bangalore, India), *Spectra and Transport in Strongly Correlated Electron Systems using Iterated Perturbation Theory*, 2001
10. S. R. Hassan (Faculty, Institute of Mathematical Sciences, Chennai, India), *Dynamical mean-field theory of Falicov-Kimball and Related Models and their application to CMR Phenomana in Manganites*, 2003
11. Pinaki Chaudhuri (Faculty, Institute of Mathematical Sciences, Chennai, India) (jointly with Prof.s A K Sood and Chandan Dasgupta), *Crystalline and Glassy states in Hard Sphere Colloids: Density Functional and Simulational Studies*, 2006
12. Prabhuddha Sanyal (Faculty, IIT Roorkee, India), *Theoretical Study of Some Transport and Spectroscopic Phenomena in Two Materials Showing Large Magnetoresistance*, 2007
13. Nandan Pakhira (Senior Research Associate, IIT Khargpur) *Spectral and Transport Properties of Falicov-Kimball Related Models and their application to Manganites*, 2009
14. Tathagat Avatar Tulsi (Currently Faculty, IIT Bombay, Mumbai, India), *Generalizations of the Quantum Search Algorithm,* 2009
15. Srijan Kumar Saha (Max Planck Institute of Microstructure Physics, Halle, Germany), *Structural, electronic and vibrational properties of n-layer graphene with and without doping: A theoretical study*, 2010
16. Subhro Bhattacharjee (Faculty, International Centre for Theoretical Sciences, Bangalore, India), *Some Unconventional Phases and Phase Transitions in Condensed Matter: Spin- Nematics, Spin Liquids, Deconfined Critical points and Graphene NIS Junctions,* 2010
17. Manjari Gupta (post-doctoral fellow, HRI, Allahabad), *Studies of Ultracold Bosons in Optical Lattices using Strong-coupling Expansions*, 2017
18. Aabhaas Vineet Mallik (post-doctoral fellow ICTS, Bangalore) *Role of quantum fluctuations in the t-J model: Implications for cuprate superconductors*, submitted Aug 2018

Awards, Special Attainments, Distinctions, etc.:

- I Rank for the State in the Mysore S.S.L.C. Examination of April 1966 (89.9% Marks)
- National Science Talent Search Scholarship, awarded by the N.C.E.R.T., India, from 1967 to 1972.
- I Rank for Bangalore University in the B.Sc. (Hons) degree Examinations of April 1970 (80.8% Marks) and Winner of State Award for academic distinction.
- I Rank in each Semester of M.Sc. (Physics) at I.I.T. Kanpur during 1970 -1972 (10.0 CPI) and Winner of Certificates of Merit and the Physics Proficiency Prize.
- Teaching Assistantship at the Department of Physics, Cornell University 1972 -1973.
- IBM Graduate Fellowship, awarded by IBM Fellowship Foundation at the Department of Physics, Cornell University 1973 -1976.
- Selected for the 1977 Summer Faculty Program, IBM Thomas J. Watson Research Centre, New York.
- Awarded the "Science Academy Medal for Young Scientists" for the year 1983 by the Indian National Science Academy.
- Elected "Young Associate" of the Indian Academy of Sciences in 1983.
- Member of the Editorial Board of Pramana-J.Phys, 1989. Associate Editor, Pramana-J.Phys, July 1992-June 1998. Editor, Pramana-J.Phys, July 1998 -Dec 2007.
- Elected Fellow of the Indian Academy of Sciences, 1990.
- Elected Honorary Senior Fellow of the Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, Oct. 1990.
- Elected to Current Science Association, Bangalore, India, 1992.
- Member, Project Advisory Committee on Condensed Matter Physics and Materials Science, Department of Science and Technology, Govt. of India (1995-1997)
- Elected Fellow of the Indian National Science Academy 1997.
- Elected Fellow of the National Academy of Sciences, India 1997.
- Honorary Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, (1998 -)
- DAE - Raja Ramanna Prize of the JNCASR, Nov 2000
- Member, Physics Sectional Committee, Indian Academy of Sciences (2000-2004)
- MSIL Chair Professor, IISc from Oct 2003 to Sept 2006
- Alumni Award for Excellence in Research for Science for 2006, Indian Institute of Science, Bangalore.
- J C Bose National Fellowship of the Department of Science and Technology, Government of India, May 2006 – Feb 2018
- Member, Management Board, International Centre for Theoretical Sciences, India, 2008 -
- Convener, Physics Sectional Committee, Indian Academy of Sciences, (2010 - 2012)
- Elected Fellow of The World Academy of Sciences for the advancement of science in developing countries (TWAS), 2011
- Elected Fellow of the American Physical Society (APS), 2015
- "CNR Rao Vijnana Puraskara" by the "Swadeshi Vijnana Andolana, Karnataka", Sept. 2016
- Science and Engineering Research Board (SERB) Distinguished Fellow Feb 2018 -

Extended Visits to Laboratories/Institutions of repute:

- Bell Laboratories, Murray Hill, NJ, USA
  from 4 July -12 August, 1983,
  from 1 April -28 May, 1993,
  from 13 June -24 June, 1994.

- L.A.S.S.P., Cornell University, Ithaca, NY, USA
  from 5 Sept. -31 Sept., 1983,
  from 1 Aug. -8 Aug., 1986.

- I.C.T.P., Trieste, Italy
  from 22 July-5 Sept. 1984,
  from 8 July -26 July, 1991.

- Physics Department, Ohio State University, Columbus, Ohio, USA
  from 25 June -27 July 1985,
  from 1 July -31 July 1986.

- K.I.T.P., Santa Barbara, California, USA,
  from 1 May -31 June, 1986,
  from 27 Aug to 14 September 2007,
  from 8 October to 3 November 2007,
  from 22 Aug to 11 September 2009.

- IBM T. J. Watson Research Centre, Yorktown Heights, New York, USA,
  from 5 June -13 Aug. 1989,
  from 30 Apr. -15 June 1990,
  from 27 May -28 June 1991,
  from 6 Apr -15 May 1992,
  from 26 Oct -10 Nov 1992.

- Dept. of Theoretical Physics, ETH, Zurich, Switzerland,
  from 1 May -10 June 1994.

- Physics Department, University of Cincinnatti, Cincinnati, Ohio, USA
  from 21st May to 3rd June 2000.

- Physical and Theoretical Chemistry Laboratory, Oxford University, Oxford, UK
  from 17 Oct to 30 Oct 1999,
  from 24th April to 20th May 2000,
  from 1 May -31 May 2001,
  from 29 April to 18 May 2002,
  from 1 September to 22 September 2004,
  from 6 Aug to 13 Aug 2007,
  from 1 Oct to 10 Oct 2008,
  from 28 May to 5 June 2012

- Laboratoire de Physique Theorique, ENS, Paris, FRANCE
  from 1 Apr -30 Apr 2001,
  from 19 May -9 June 2002,
  from 19 April -18 May 2003,
  from 11 April -10 May 2004.

- Max-Planck-Institute for the Physics of Complex Systems, Dresden, Germany
  from 30 Aug -11 sept, 1998,
  from 6 April -19 April 2003.

- Department of Physics, Univ. of California, Santa Cruz, USA
  from 10 May -24 May 2004
  from 16 April -6 May 2007,
  from 20 Aug to 29 Aug 2008.

- Institut Laue Langevin, Grenoble, France
  from 24 -31 July 2005.

- Department of Physics, Georgetown University, Washington, DC, USA
  from 9 May to 16 May 2009,
  from 14 Sept to 19 Sept 2009,
  from 1 May to 9 May 2010,
  from 14 Aug to 20 Aug 2010,
  from 16 May to 30 May, 2011,
  from 10 April to 24 April 2012,
  from 30 June to 13 July 2013.

Invited Talks at National and International Meetings

*(only those from 1990 onwards, regular seminars/colloquia at Indian and Foreign **Institutions** not included)*

1. Invited Oral at the "International Conference on Superconductivity" Jan 10-14, 1990, Bangalore.

2. Invited Participant and seminar speaker at the Workshop on Strong Correlations in High Temp. Superconductors, Orsay, Paris from 17 -27 April 1990.

3. Invited lectures at the NATO Advanced Study Institute on the theory of High-Tc Superconductivity at Cargese, France, from 16th June -30th June 90.

4. Invited talk at the discussion meeting on "High-Tc Superconductors: Critical analysis of experimental facts" 8th August -10 Aug 90, JNCASR & Department of Physics, IISc, Bangalore.

5. Invited talk at the INDO-EEC Discussion Meeting on "Superconductivity", 30th Jan 2nd Feb 91, JNCASR, IISc, Bangalore.

6. Invited lectures at the Group Discussion Meeting on "New Insights into the old Hubbard model", 25th Feb -1st March 91, MATSCIENCE, Madras.

7. Invited seminars at the mini-workshop on Strongly Correlated electron systems, ICTP Trieste, ITALY from 8th July -26th July 91.

8. Invited talk at The Discussion Meeting on "Metal-Nonmetal transitions" 6 -8th Feb 92, JNCASR, IISc, Bangalore.

9. Invited talk at the Discussion Meeting on "Chemistry and Physics of Fullerenes" 22 -23rd Jan. 93, JNCASR, IISc., Bangalore.

10. Invited talk at the Discussion Meeting on "Current Trends in Superconductivity" 25 27th Jan. 93, JNCASR, IISc. Bangalore.

11. Invited Lectures at the Workshop on "Common Problems on Low Dimensional Field Theories and Condensed Matter Physics" 8 -12 Feb. 93, Institute of Mathematical Sciences, Madras.

12. Invited Seminars at the ICTP (Trieste) Spring College in Condensed Matter on Quantum Phases, on 30 and 31 May, 1994.

13. Invited talk at the INSA meeting for young scientists, a twenty year retrospective,4th October 1994, New Delhi.

14. Invited talk at the workshop on Computer Simulations in Material Science,15-17 Nov 1994, IISc., Bangalore, India.

15. Invited talk at the STATPHYS satellite meeting on "Dynamics of Complex Systems" held in the S.N.Bose National Center for Basic Sciences, Calcutta from 6-10 Aug 1995.

16. Invited talk at the International conference on Strongly Correlated Fermion Systems (SCES'95) held at

Goa,India, from 27-30 Sept 1995

17. Invited talk at the symposium on disorder and interactions in electron systems, held at IISc., Bangalore, India from 28-30 Jan 1996

18. Invited talk at the workshop on Computational Approach to Electronic Correlations in Solids, May 25 to 29, 1998, Dresden, Germany

19. Invited lecture at 9th Mid-Year Meeting of the Indian Academy of Sciences, July 1998, Bangalore

20. Invited talk at international workshop on "Density Matrix Renormalization Group and other recent advances in numerical renormalization group methods" , Sept. 1 to Sept. 10, 1998, Dresden, Germany

21. Invited talk at the workshop on Correlated Systems and Quantum Magnetism, Sept 12-15, 1998, IISc, Bangalore, India

22. Invited talk at the International Symposium on Recent Developments in Theoretical Physics (RDTP'99), at T.I.F.R. during January 2-5, 1999.

23. Invited lectures at the SERC School on Electronic Structure and Physics of Materials, held at the SNBNCBS, Kolkata, during October 31-November 19, 1999.

24. Invited talk at the Discussion Meeting on Strongly Correlated Systems, I. I. Sc., Ban-galore, November 26-27, 1999

25. Invited seminar on 12 May 2000 at the workshop on strongly correlated electrons, the Newton Institute, Cambridge University, UK

26. Invited talk at the conference on Current Trends in theoretical Physics held at the Mehta Research Institute, Allahabad, October 29-31, 2000.

27. Invited talk at DAE-SSP symposium held at Panjab University, Chandigarh (26-30 December 2002)

28. Invited talk at the National Symposium on Colossal Magnetoresistance in Rare Earth Manganites, January 7-10, 2003, at the S. N. Bose National Centre for Basic Sciences, Kolkata

29. Invited talk at the DST Interaction Meeting on Electronic Structure and Simulations In material Science, 20 march -23 March 2003 at the Department of Physics, University of Pune

30. Invited overview talk on quantum impurity physics at the International Seminar on "Modern Aspects of Quantum Impurity Physics" at the Max-Planck-Institute for the Physics of Complex Systems (MPIPKS) in Dresden, Germany, March 31st to April 18th, 2003

31. Invited lectures at the Summer College and Conference on "Physics and Chemistry of Rare-Earth Manganites", at the Abdus Salam International Centre for Theoretical Physics (ICTP), in Trieste, from 1 to 18 June 2003.

32. Invited Talk at Statphys 22, the IUPAP International Conference on Statistical Physics held in IISc, Bangalore from 4th -9th July, 2004

33. Invited Lectures at the SERC school on Correlated Systems, Nov. 25th -27th, 2004, at the Harish Chandra Research Institute, Jhusi, Allahabad

34. Invited talk at the The Fourth Asia-Pacific Workshop on Strongly Correlated Systems, on ”Novel Quantum Phenomena in Emergent Materials” held in Beijing from May 27 to 30, 2005

35. Invited talk at the mini-conference on ”Dynamical Mean-Field Theory for Correlated Electrons: Applications to Real Materials, Extensions and Perspectives” held at the Abdus Salam ICTP, Trieste, Italy , (SMR 1667) from August 1-3, 2005.

36. Invited Talk at the Indo-Japan Joint Seminar on Novel Giant-Magnetoresistive Materials and their Electronic Structures, January 29 February 2, 2006, I I Sc., Bangalore, India

37. Invited talk at the International Conference on ”Physics Near the Mott Transition” at the Indian Institute of Science, Bangalore, India, July 24-28, 2006

38. Invited talk at the Indo-Japan Seminar on ”Novel Magnetic Materials and their Electronic Structures” held at the Univ. of Tokyo, 28th Feb 2007 to 2nd March 2007

39. Invited Talk at the International Workshop and Seminar on ”New Frontiers in Quantum Impurity Physics: From Nano-Structures to Molecular Devices” held in the Max-Planck Institute for Complex Systems in Dresden, Germany from 13 August to 15 August 2007

40. Invited talk and participation at the Kavli Institute for Theoretical Physics (KITP) research program on “Moments and Multiplets in Mott Materials ” at the University of California, Santa Barbara (UCSB), from 27rd Aug to 16th September 2007 and 8 Oct 2007 to 3rd Nov 2007

41. Invited talk at the ICTS Condensed Matter Physics Workshop held at Mahabaleshwar, Maharashtra from 9 December to 22 December 2008.

42. Invited talk at the international conference on ‘Recent Trends in Strongly Correlated Systems’. in Kolkata during the period 2-nd to 4-th March, 2009.

43. Invited talk at the Symposium on the Recent Developments in Quantum Condensed Matter held at the School of Physical Sciences, Jawaharlal Nehru University, New Delhi during March 5-7, 2009

44. Invited talk at the International Conference on Cold Ions and Atoms 2010, held at Sankarpur, West Bengal, from 18th to 21st January, 2010

45. (Invited) Plenary talk at the “National conference on Recent Advances in Correlated Electron Systems” (RACES 2010), held in I.I.T. Guwahati from January 18-20, 2010

46. NESP2010 S N Bose lecture at the ICTS Program on NON-EQUILIBRIUM STATISTICAL PHYSICS held at IIT Kanpur from 30 January 08 February, 2010

47. Invited talk at the International Conference on Condensed matter physics “Paris Edge 2010”, held at University of Paris -Sud, Orsay, France, from 17th to 19th May, 2010

48. Invited lecture at the First Foundation Day Celebrations of NISER, Bhubaneshwar, India, from 27th to 29th December 2010

49. Invited Talk at the International Conference on Functional Oxides and New Carbon Materials (CFOCM 2012) from 6-8 May, 2012 at the S.N. Bose National Center for Basic Sciences, Kolkata.

50. Invited Talk at the joint India-European workshop on *Advances in Electron Spectroscopy - Experiment and Theory* (AESET 2013), 23 – 26 May 2013, Maria Spring, Göttingen, Germany.

51. Invited Talk at the Aspen Summer Workshop on *Many Body Quantum Systems Far from Equilibrium*, Aspen, Colorado, USA, Aug 2014.

52. Invited Talk at the 5th "International Conference on Superconductivity and Magnetism"- ICSM2014, held in Fethiye, Turkey, from 24th to 30th April, 2016

53. Invited Lecture at the *ICTS School on Current Frontiers in Condensed Matter Research*, held from 20 – 26 June, 2016, at ICTS-TIFR, Bangalore.

54. *Homi Bhabha Memorial Public Lecture* at IISER, Pune, 9 Nov. 2016

55. Invited Lectures at the *Discussion Meeting on Nonequilibrium Quantum Many Body Physics*, HRI Allahabad, 21-25 November 2016

56. Special Evening Talk at the *National Conference on Electron Spectroscopy (NCES 2016),* held at Toshali Sands, Puri, December 22-24, 2016

57. Evening Lecture at the National Conference on Quantum Condensed Matter (Q-Mat) in IISER, Mohali from 25th to 27th July 2018

H R Krishnamurthy - Research and Publications

Research interests and expertize:

Theoretical condensed Matter Physics, with a focus on strongly interacting quantum and classical many-body systems, especially quantum impurity physics and theories of strong correlation phenomena in solids and in systems of cold atoms in optical lattices. Study of these using Quantum many body techniques, *both equilibrium and non-equilibrium*, including diagrammatic perturbation theory, functional integral methods and strong coupling perturbation theory; renormalization group methods, both perturbative and numerical (non-perturbative); dynamical effective medium methods including self-consistent cluster methods.

Major Research Accomplishments

[Reference #s in brackets below are from the attached list of publications, total citation #s from Google Scholar, as of 15 Jan 2017]

- *First numerical renormalization group solution of the Anderson Impurity problem* [1, 56, 57]. [1673 total citations]
- First Scaling and bosonization solution of the *two-impurity Kondo problem* [2, 76]. [283 total citations]
- Proposals of novel mechanisms for superconductivity [5,15, 63, 74]. [250 total citations]
- First analysis of *spiral spin correlations* and metal-insulator transitions in non-bipartite lattices in strongly correlated electron systems [7, 9, 10, 11, 14, 64, 75]. [609 total citations]
- Discovery and analysis of *novel scaling phenomena in hysteresis* in model spin systems [8, 67, 142]. [363 total citations]
- First analysis of the *instabilities of the Nagaoka ferromagnetic state* of the large-U Hubbard model [66]. [196 citations]
- *Novel applications of the Density Functional Theory of Freezing*, eg., to describe vortices in superconductors, freezing in laser-modulated colloids, dislocations, etc. [12, 22, 24, 61, 62, 69, 84]. [340 total citations]
- Elegantly simple Mean-field *theory of phase-transitions in the Bose-Hubbard model* [18, 25]. [487 total citations]
- First Dynamical mean-field theory analysis of *lattice compressibility effects near the Mott transition* [20, 35]. [82 total citations]
- First DMRG studies of several quantum models and development of the symmetrized DMRG technique [26, 27, 80, 83, 85, 86]. [585 total citations]
- *Invention* and development of the *Dynamical Cluster Approximation*, which solved a long standing problem of embedding causal self-consistent clusters in an effective medium theory [30, 90, 91]. [897 total citations]
- *New theory* for the *colossal magneto-resistance* and other hitherto poorly understood phenomena, such as nano-scale inhomogeneities, etc., in *doped manganites* [33, 34, 37, 40, 96, 104]. [274 total citations]
- First analysis of some novel quantum phase transitions and local non-fermi-liquid behavior in coupled quantum dots connected to leads [36, 97, 98, 107]. [167 total

citations]

- First analysis of novel effects in strongly correlated band insulators, including *correlation induced metallicity* and *a new route to half-metallicity* [39, 50, 113]. [101 total citations]
- First studies, in collaboration with experimental colleagues, of the electronic structure and phonon spectra of doped and un-doped Graphene single and multi-layers [42, 43, 47, 101, 105]. [2820 total citations]
- First comprehensive theory for the *exact non equilibrium correlation functions measured in pump-probe experiments*, such as time resolved photoemission spectroscopy [45, 51, 102, 114]. [117 total citations]
- Development of *new Strong Coupling Expansions* for cold atom systems [103, 111]. [68 total citations]
- First extension and application of *Strong Coupling Expansions to non-equilibrium phenomena* in quantum systems with strong correlations and inhomogeneities, such as modulation spectroscopy of cold atoms systems in traps [48, 49, 112, 115]. [20 total citations]

Publications Data (Summary):

- (a) Letters, Rapid Communications etc.: 55 (1 - 55)
- (b) Regular Research papers: 65 (56 - 120)
- (c) Review Articles, book chapters, etc.: 10 (121 - 130)
- (d) Papers in refereed proceedings of Conferences, Symposia, etc.: 19 (131 – 149)
- (e) Archived Preprints: 7 (150 - 156)

• **Total: 157**

Citation Data (from Google Scholar, 24 September 2018):

https://scholar.google.co.in/citations?user=kv9sLtAAAAAJ&hl=en

Citation indices	**All**	**Since 2013**
Citations	12206	4997
h-index	43	23
i10-index	90	48

Complete List of Publications of H R Krishnamurthy

(a) Letters, Rapid Communications etc.:

1. H. R. Krishnamurthy, K. G. Wilson and J. W. Wilkins (1975)
   Temperature Dependent Susceptibility of the Symmetric Anderson Model: Connection to the Kondo Model
   Phys. Rev. Lett. **35**, 1101 (20 Oct 1975).
2. C. Jayaprakash, H. R. Krishnamurthy and J. W. Wilkins (1981)
   Two-impurity Kondo Problem
   Phys. Rev. Lett. **47**, 737 (7 Sept 1981).
3. G. Parthasarathy, E.S.R. Gopal, H. R. Krishnamurthy, R. Pandit and J. A. Sekhar (1986)
   Quasi-Crystalline Al-Mn Alloys-Pressure Induced Crystallisation and Structural Studies
   Current Science **55**, 517 (1986).
4. Kan Chen, C. Jayaprakash and H. R. Krishnamurthy (1987)
   Spatial Correlations around a Kondo Impurity
   Phys. Rev. Lett. **58**, 929-933 (March 2, 1987).
5. D. L. Cox, M. Jarrell, C. Jayaprakash, H. R. Krishnamurthy and J. Deisz (1989)
   Virtual Electric Quadrupole Fluctuations: mechanism for High Tc Superconductivity
   Phys. Rev. Lett. **62**, 2188-2191 (1 May 1989).
6. Y. Hatwalne, H. R. Krishnamurthy, R. Pandit and S. Ramaswamy (1989)
   Small angle grain boundaries in quasicrystals
   Phys. Rev. Lett. **62**, 2699-2702, (Jun 5, 1989).
7. C. Jayaprakash, H. R. Krishnamurthy, and Sanjoy Sarker (1989)
   A New Mean-Field Theory for the t-J Model
   Phys. Rev. B **40, RC**, 2610-2614 (Aug 1, 1989).
8. Madan Rao, H. R. Krishnamurthy and Rahul Pandit (1989)
   Hysteresis in Model Spin Systems
   J. Phys. Cond. Matt. Lett. **1**, 9061-9066 (Nov 13, 1989).
9. H. R. Krishnamurthy, C. Jayaprakash, S. Sarker and W. Wenzel (1990)
   The Mott-Hubbard Metal Insulator Transition in Non-bipartite Lattices
   Phys. Rev. Lett. **64**, 950-953 (Feb 19, 1990).
10. S. Sarker, C.Jayaprakash, H. R. Krishnamurthy and W. Wenzel (1990)
    Spiral States in the Square Lattice Hubbard Model
    Phys. Rev. B **43**, **RC** 8775-8778 Part B (Apr 1, 1991).
11. C. Jayaprakash, H. R. Krishnamurthy, S. Sarker and W. Wenzel (1991)
    Metal-insulator Transition in the Hubbard Model on a triangular Lattice
    Europhys. Lett. **15**, 625-630 (Jul 15, 1991).
12. S. Sengupta, C. Dasgupta, H. R. Krishnamurthy, G. I. Menon, T.V. Ramakrishnan (1991)
    Freezing of the Vortex liquid in High Tc superconductors: A Density functional Approach
    Phys. Rev. Lett. **67**, 3444-3447 (Dec 9, 1991).
13. A.K. Sood, N. Chandrabhas, D. Victor S. Muthu, A. Jayraman, N. Kumar, H. R. Krishnamurthy, T. Pradeep and C.N.R. Rao (1992)
    Pressure induced Shift of the Photoluminescence Band in Single crystal of Buckminster Fullerene C60 and its Implications for SuperConductivity in Doped Samples
    Sol. State Comm. **81**, 89-92 (Jan 1992).
14. D. D. Sarma, H. R. Krishnamurthy, Seva Nimkar, S. Ramasesha, P. P. Mitra and T. V. Ramakrishnan (1992)
    Electronic Structure of High-Tc Superconductors and related Compounds
    Pramana **38**, **L**531-**L**538 (May 1992).

15. D. M. Newns, H. R. Krishnamurthy, P. C. Pattnaik, C. C. Tsuei, C. L. Kane (1992)
Saddle Point Pairing: An Electronic Mechanism for Superconductivity
Phys. Rev. Lett. **69**, 1264-1267 (Aug 24, 1992).
16. A. Taraphdher, H. R. Krishnamurthy, R. Pandit and T. V. Ramakrishnan (1993)
Exotic Physics in the Negative U Extended Hubbard Model for Barium Bismuthates
Europhys. Lett. **21**, 79-85 (Jan 1, 1993).
17. Seva Nimkar, D.D. Sarma and H. R. Krishnamurthy (1993)
Electronic Structure of $NaCuO_2$
Phys. Rev. B **47, RC** 10927 (Apr 15, 1993); (E) **48** 17650 (Dec 15, 1993).
18. K. Sheshadri, H. R. Krishnamurthy, R. Pandit and T. V. Ramakrishnan (1993)
Superfluid and Insulating phases in an Interacting Boson Model: Mean-Field Theory and the RPA
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