BIO-DATA

Name : H.K.T.KUMARA

Date of Birth : 24th November 1954

Institution : Siddaganga Institute of Technology,
Tumkur- 572 103

Address: (a) College:

Professor and Head
Department of Physics,
Siddaganga Institute of
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(b) Residence:

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OFFER!

Interested candidates may contact for registration for Ph.D Full-time in VTU in the area of Nanofluids and Applications.

Academic (B.Sc. onwards) and professional career:

Degree / Position	Class and Year	University / Institution
B.Sc. (Physics, Chemistry, Mathematics)	First class, 1973	Mysore University, India
M.Sc. Physics (Nuclear Physics)	First class, 1975	Mysore University, India
Ph.D. (Generation of ultra short pulses by mode-locking of lasers: Theoretical Investigation)	1997	Bangalore University, India
Lecturer in Physics	11.08.1976 to 31.12.1985	Siddaganga Institute of Technology, Tumkur-572 103
Senior Lecturer	01.01.1986 to 31.12.1993	Siddaganga Institute of Technology, Tumkur-572 103
Selection Grade Lecturer	01.01.1994 to 02.01.2002	Siddaganga Institute of Technology, Tumkur-572 103
Assistant Professor	03.01.2002 to 17,10,2007	Siddaganga Institute of Technology, Tumkur-572 103
Professor and Head	18.10.2006 till date	Siddaganga Institute of Technology, Tumkur-572 103

(i) Membership of professional bodies

1. Life member of Indian Society for Technical Education (ISTE LM 1065).
2. Life member of all Karnataka Engineering Colleges Association.
3. Life member of Physics Teachers Forum, Visveswaraya Technological University, Belgaum, Karnataka, India.
4. Life member of Society for Shock Wave Research (SSWR), Department of Aerospace Engineering, Indian Institute of Science, Bangalore from March 18th 2011.
5. Nominated member of Visvesvaraya Technological University, Belgaum, to the "BOS (Physics)" of BMS College of Engineering, Bangalore for the academic year 2011-12 and 2012-13.

(ii) Examinerships

1. Board member of Board of Examination in Physics (professional)2004, Bangalore University , Karnataka, India.
2. Member of the Board of Examination for the degree of Doctor of Philosophy (2003 & 2004), Madras University, India.
3. Chairman, Board of Examination for Physics 2003, Visveswaraiah Technological University, Belgaum, Karnataka, India.
4. Examiner for M.Sc. (Physics) 2005, Sri Sathya Sai Institute of Higher Learning (Deemed University) Vidya Giri, Prasanthinilayam (A.P).

(iii) Publications and i*nvited Talks *(Numbers only)

1. Journal Publications	- 04
2. Conference proceedings – Int (Non-Refereed)	- 03
3. Conference proceedings – Int (Refereed)	- 01
4. Conference proceedings – Na (Non-Refereed)	-08
5. Invited Talks	-04
Total	**20**

(iv) List of publications

List attached

(v) Courses taught

Engineering Physics

Scientific and analytical instruments

(vi) Quality Improvement Programmes(QIP) / Summer Schools/Workshops/National seminars And In-house Programmes Attended

1. Cryogenic Techniques-1 liquid nitrogen, QIP centre for continuing education IISc. , Bangalore, july4-19, 1980.
2. Opto-electronics materials, QIP Department of physics, IIT, Madras, June 11-22, 1984.

3. Intensive course on laser technology, ISTE, Department of physics, University of Cochin, may 17-30, 1985.
4. Lasers and their applications, centre for continuing educations, IISc, Bangalore, April 4-15, 1994.
5. "Advanced Experimental Techniques", Department of Physics, IIT Giwahati, 6-10 February, 2006, QIP AICTE sponsored Short-term Course.
6. "Instructional Design and Delivery" QIP 14^{th} – 19^{th} 2006, National Institute of Technical Teachers Training & Research, Chennai, conducted at SIT, Tumkur.
7. Workshop on "Enthusiasm in Teaching Physics" UGC Sponsored one-day State Level Workshop on 10^{th} December 2005, Deptt. Of Physics, Sree siddaganga college of Arts, Science and Commerce for Women, Tumkur.
8. Workshop on "Nanomaterials and Experiments in Physics" 5^{th} August 2006, Department of Physics, BVBCET, Hubli.
9. Workskshop on "Learning to Lead Adaptively", 5-6 June 2007, Organized by Cambridge Leadership Associates (LLC), USA and Post Graduate Department of Management Studies, Siddagana Institute of Technology, Tumkur.
10. 11^{th} ISTE State Level Annual Convention and Two Days National Seminar
11. on " Quality and Excellence in Technical Education" November 28-29, 2008
12. One day symposium on "Current trends in photonics and its applications", 20^{th} March, 2010,B.N.M.T., Bangalore.
13. One day workshop on "Magnetic materials and their applications", February 28, 2009, M.S.R.I.T., Bangalore.
14. A summer school on "Advances in Engineering Physics", July 06-11, 2009, NITK, Surathkal.
15. FDP on "Trends and Techniques in Nanotechnology", July 4-17, 2010,School of Nanoscience and Technology center, NITC, Calicut.
16. Awareness workshop on "The facilities of UGC-DAE consortium for Science Research", September 6-7, 2010, MIT, Manipal.
17. FDP on "Photonics Materials and devices", Feb. 28, March1-4, 2011, Dept. of Physics, NITC, Calicut.
18. Workshop on "Advanced Techniques for Characterization of Materials" on 28^{th} May 2011, at Department of Physics, M.S.R.I.T., Bangalore-560 054
19. FDP on "Advanced Nanomaterials Process, Characterization and Applications", July 6-12, 2011,School of Nanoscience and Technology center, NITC, Calicut.

In-house Programmes

1. Workshop in the subject Engineering Physics, 14-19 June, 1993
2. Workshop on Computer Oriented Numerical Techniques. 16-21 August, 1993
3. Workshop on UNIX & C, 2-9 July, 1994
4. Workshop on Analog & Digital Communications, 4-10 September, 1995

5. Workshop on Windows' 95, 17-22 August, 1998
6. Workshop on Signal Processing, 6-11 January, 1997
7. Workshop on Basics of Computers, 3-9 October, 1997
8. Workshop on Programming in C, 8-13 February, 1999
9. Workshop on Programming in C, 8-13 September, 1999
10. Workshop on Internet Fundamentals & Introduction to Java, 23-30 August, 2000
11. Workshop on ORACLE, 07-16 April, 2001
12. Workshop on Liqiud Crystals 26-31 August, 2002
13. Workshop on Chemical Aspects of Bio-Technology & Quantum Computation, 23-28 February, 2003
14. Workshop on Professional Communication, 21-27 August 2003
15. Workshop on Nanotechnology & Applications, 23-28 August, 2004
16. Workshop on Mechatronics And MEMS, 16-21 August 2005
17. Workshop on Professional Development Programme, 29th January to 03rd February 2007
18. Workshop on Review of Engineering Physics Curriculum, 28th January to 2nd February 2008.
19. Quality Improvement Programme on "Development of industry driven and project based curricula in Engineering Technology", August 20-21, 2009.
20. Workshop series 31 on Research areas on Bacteriorhodopsin, Nanoparticles and computer applications", August 1-7, 2008.
21. Workshop series 32 on "Research areas on Bacteriorhodopsin, Nanoparticles, Microfluidics and weath from waste", January 19-24, 2009.
22. Workshop series 33 on "Characterization of Bio-organic and Inorganic Materials" , January 24-30, 2010.
23. Workshop on "Nanotechnology", January 18, 2010.

(***vii) <u>Areas of interest</u>***

High power lasers, Nanoscience, Nanofluids by laser ablation to study thermal properties-microchannels and nanochannels, Contact angle measurements, Standardization of culture media for Halobacterium halobium and Halobacterium salinarium, Bacteriorhodopsin and nanoscience.

Contacts with R & D Labs

1. Laboratory for Hypersonic and Shock wave Research, Aerospace Engineering, Indian Institute of Science, Bangalore.
2. Sprintronics Lab , Department of Physics, I.I.Sc., Bangalore.
3. Ceramic Technology Institute, Corporate Research and Development, BHEL, Bangalore.
4. Melvern Aimil – Aimil Ltd., Naimex House, 88/1, Outer Ring Road, Nagavara, Bangalore.
5. School of Nano Science and Technology, National Institute of Technology Calicut.
6. Department of Chemistry, National Institute of Technology Calicut.
7. Department of Physics, National Institute of Technology Calicut.
8. Department of Physics, National Institute of Technology, Surathkal

(viii) Other activities

1. President, VTU Physics Teachers Forum since 2002.
2. Participated in International conference on "Nanocomputing-Technology Trends", **December 17-18, 2001**, SASTRA Deemed University, Thanjavur -613 402, Tamil Nadu.
3. Organized and Coordinated the workshop on "Nanotechnology and its Applications", **August 23-28, 2004** at Siddaganga Institute of Technology, Tumkur, India.

(ix)

(a) Foreign Assignment

Visited UK from February 19th to March 7th 2005 to get firsthand experience on nanotechnology education in the University of Leeds, University of Sheifield and University of Abertay Dundee, Scotland. The visit was sponsored by British Council, Chennai. At present working with Prof. S.K.Biswas, Chairman, Department of Mechanical Engineering, IISc., Bangalore, for developing the syllabus of nanoscience and Technology to be introduced at the level of 5th semester B.E. in Visveswaraya Technological University, Belgaum.

(b) VTU has appointed me as an examiner and deputy chief for conducting University Examination January 2011 at JSS Academy of Technical Education, Maritius, from 3rd Jan to 13 Jan. 2011.

3. (iv) List of publications

(1) Journal Publications

1. H.K.T.Kumar, K.Appaji Gowda and K.P.J.Reddy, "Analysis of an actively mode-locked internally frequency doubled cw lasers", Pramana J of Physics, 3, 317, 1995.
2. H.K.T.Kumar and K.Appaji Gowda, "Generation of femtosecond pulses by passive mode-locking of lasers using Bacteriorhodopsin molecules", Indian J of Pure and Applied Physics, 1998.
3. H.K.T.Kumar and K.Appaji Gowda, "A study of absorption characteristics of BR molecules", Pramana J of Physics, March 2000.

(2) International Journal

1. M.S.Rudresha, R.Jeevan kumar, K.V.S.Gnaneswara Rao, H.K.T.Kumar, " Physico-chemical characteristics of borewell waters in and around Tumkur city, Karnataka", ATTI DELLA "Fondazione Giorgio Ronchi" Anno LXV, 2010-N.2, PP181-194.

(2) Conference proceedings – Int (Non-Refereed)

1. H.K.T.Kumar and K.Appaji Gowda, "Analysis of actively mode-locked broad band cw lasers in presence of detuning", PHOTONICS-98, VOL 1, 372, International Conference on Fiber Optics and Photonics, Department of Physics, Indian Institute of Technology, Delhi, India.
2. H.K.T.Kumar and K.Appaji Gowda, "A study of absorption characteristics of Bacteriorhodopsin molecules", PHOTONICS-98, VOL 1, 372, International Conference on Fiber Optics and Photonics, Department of Physics, Indian Institute of Technology, Delhi, India.
3. H.K.T.Kumar and K.Appaji Gowda, " Slow saturable absorption characteristics of bacteriorhodopsin molecules in comparison with ideal slow saturable absorber", International Conference on Lasers and Their Applications, March 1-4, 2000, Department of Physics, St. Joseph's college (Atonomous), Tiruchinapalli – 660 002, Chennai, India.

(3) Conference proceedings – Int (Refereed)

1. H.K.T.Kumar, " Formation of nanoparticles and nanostructures by drying water under low vacuum", Eight International Conference Nano 2006, Metallurgy Department, IISc., 20-25, August 2006.
2. H.K.T.Kumar, " Size dependent crystal growth by evaporation technique", International conference REIMAC-2010, NITK Surathkal.

International symposium (participated)

1. International symposium on Nanotechnology- Present and future trends – INSYN August 25-26, 2010, VIT, Vellore.

National conference (participate)

1. National conference on "Phosphors and their applications" November 16-17, 2010, R.N.S.I.T., Bangalore.

(4) Conference proceedings – National (Non-Refereed)

1. H.K.T.Kumar, K.Appaji Gowda and K.P.J.Reddy,"Ultrashort pulse generation by passive mode-locking of lasers using Bacteriorhodopsin molecules", Advanced Laser Spectroscopy and Applications, H.D.Bist, et al, Applied Publishers Limited, 1996.
2. H.K.T.Kumar, "Comparison of detuning effects on the mode-locked pulse width in actively mode-locked broad band and narrow band lasers", National Conference on Lasers and Spectroscopy, December 28-31, 2001, Physics Department , NAS (PG) College, Meerut – 250 002, India.

3. H.K.T.Kumar and K.Appaji Gowda, “Slow saturable absorption characteristics of bacteriorhodopsin molecules in comparison with ideal slow saturable absorber”, Asian Journal of Applied Physics, vol. 1, March 2000.
4. H.K.T.Kumar, “Comparison of detuning effects on the mode-locked pulse width in actively mode-locked broad band and narrow band lasers”, Asian Journal of Applied Physics, vol. 2, March 2001.
5. H.K.T.Kumar, K.Appaji Gowda and K.P.J.Reddy, “Dynamics of pulse evolution in a mode-locked frequency doubled Ti: sapphire laser”, National Laser Symposium, 29th January 1994, Centre for Advanced Technology, Indore, India.
6. H.K.T.Kumar, K.Appaji Gowda and K.P.J.Reddy,” Ultrashort pulse generation by passive mode-locking of lasers using Bacteriorhodopsin molecules”, Workshop on Advanced Laser Spectroscopy, February 25-28, 1995, Indian Institute of Technology, Kanpur, India.
7. Shambhu K. Shastry and H.K.T.Kumar, “ An Undergraduate Curriculum Framework for Teaching Nanoscience and Engineering, All India Seminar on Vistas of Nano Applications”, 6-7 January 2006, Institue of Engineers, Bangalore.
8. H.K.T.Kumara, “Characterization of nanofluids produced by laser ablation technique”, Nanoscience and Engineering for better ceramics (Nanosec 2011) June 23-24, 2011 Organized by Indian Ceramic Society, Bangalore Chapter at MRC, IISc, Bangalore.

Invited Talks

1. H.K.T.Kumar, “Teaching nanophysics for analytical study of nanometer length materials”, All India Seminar on Vistas of Nano Applications”, 6-7 January 2006, Institute of Engineers, Bangalore.
2. H.K.T.Kumar, “ Physics of Nanoscience” Nanosciences and Engineering Workshop, 28th Sept. – 08th Oct., 2005 Visveswaraya Technological University, M.S.R.S.A.S., Bangalore.
3. H.K.T.Kumar, “Roll of nonlinear material in generation of ultrashort pulses by mode-locking of lasers” Workshop on Non-linear Optical Effects in Fibers, Waveguides and other Media, December 5-6, 2003, Department of Physics, Sri Sathya Sai Institute of Higher Learning (Deemed University), Prasanthinilayam, Puttabarthi, India.
4. H.K.T.Kumar, “ Nanoscience and Technology” , Electrical Association Acharya Institute of Technology, Bangalore.

Project Handling

Supervising the project on “Burnt Rice Husk- ash deposition Problem at Tumkur” along with Prof. J.R.Mudakavi, Gen. Sectretary, The Zero Waste Society of India, Department of Chemical Engineering, IISc., Bangalore.

(4) Books Published

(a) For Bangalore University Engineering Physics Curriculum

1. A Text Book of Engineering Physics Practicals, 1980, 1993, H.K.T.Kumar, Subhas Stores, Bangalore, India.
2. A Text of Engineering Physics,1985, 1993 , H.K.T.Kumar and Basavaraju, Subhas Stores, Bangalore, India.
3. A Manual of Electrical and Electronics Laboratory, 1984, H.K.T.Kumar and Basavarajaih, Subhas Stores, Bangalore, India.
4. Model viva-voce questions and points to remember in Engineering Physics Practicals, 1998, H.K.T.Kumar, Subhas Stores, Bangalore, India.

(b) For Visveswaraya Technological University Engineering Physics Curriculum

1. A Text Book of Engineering Physics, 1999, H.K.T.Kumar and K.Appaji Gowda, Subhas Stores, Bangalore, India.
2. Engineering Physics Working Manual, 1999, Subhas Stores, Bangalore, India.
3. A Text Book of Engineering Physics, 2001, Second Revised Edition, H.K.T.Kumar and K.Appaji Gowda, Subhas Publications, Bangalore, India.
4. Model viva-voice in Engineering Physics Practicals, 1999, H.K.T.Kumar Subhas Stores, Bangalore, India.
5. A Text Book of Engineering Physics, 2002, First Edition, H.K.T.Kumar and K.Appaji Gowda, Subhas Publications, Bangalore, India.

Journal Publications

1. H.K.T.Kumar, K.Appaji Gowda and K.P.J.Reddy, “Analysis of an actively mode-locked internally frequency doubled cw lasers”, Pramana J of Physics, 3, 317, 1995.
2. H.K.T.Kumar and K.Appaji Gowda, “Generation of femtosecond pulses by passive mode-locking of lasers using Bacteriorhodopsin molecules”, Indian J of Pure and Applied Physics, 1998.
3. H.K.T.Kumar and K.Appaji Gowda, “A study of absorption characteristics of BR molecules”, Pramana J of Physics, March 2000.

4. H.K.T.Kumar and K.Appaji Gowda, “Slow saturable absorption characteristics of bacteriorhodopsin molecules in comparison with ideal slow saturable absorber”, Asian Journal of Applied Physics, vol. 1, March 2000.
5. H.K.T.Kumar, “Comparison of detuning effects on the mode-locked pulse width in actively mode-locked broad band and narrow band lasers”, Asian Journal of Applied Physics, vol. 2, March 2001.

Books Published

(a) For Bangalore University Engineering Physics Curriculum

1. A Text Book of Engineering Physics Practicals, 1980, 1993, H.K.T.Kumar, Subhas Stores, Bangalore, India.
2. A Text of Engineering Physics,1985, 1993 , H.K.T.Kumar and Basavaraju, Subhas Stores, Bangalore, India.
3. A Manual of Electrical and Electronics Laboratory, 1984, H.K.T.Kumar and Basavarajaih, Subhas Stores, Bangalore, India.
4. Model viva-voce questions and points to remember in Engineering Physics Practicals, 1998, H.K.T.Kumar, Subhas Stores, Bangalore, India.

(b) For Visveswaraya Technological University Engineering Physics Curriculum

6. A Text Book of Engineering Physics, 1999, H.K.T.Kumar and K.Appaji Gowda, Subhas Stores, Bangalore, India.
7. Engineering Physics Working Manual, 1999, Subhas Stores, Bangalore, India.
8. A Text Book of Engineering Physics, 2001, Second Revised Edition, H.K.T.Kumar and K.Appaji Gowda, Subhas Publications, Bangalore, India.
9. Model viva-voice in Engineering Physics Practicals, 1999, H.K.T.Kumar Subhas Stores, Bangalore, India.
10. A Text Book of Engineering Physics, 2002, First Edition, H.K.T.Kumar and K.Appaji Gowda, Subhas Publications, Bangalore, India.