

## CURRICULUM VITAE

### Dr. Kotresh M G

Assistant Professor  
Dept. of Physics  
Vijayanagara Sri Krishnadevaraya University  
Ballari-583 105.  
E-mail: [kotreshm26@gmail.com](mailto:kotreshm26@gmail.com)  
[kotreshm26@vskub.ac.in](mailto:kotreshm26@vskub.ac.in)  
Cell: +91-9035125844



#### • Positions and Employment:

<b>07<sup>th</sup> Sep. 2018 to present</b>	<b>Assistant Professor</b> Dept. of Physics, Vijayanagara Sri Krishnadevaraya University, Ballari-583 105, India.
<b>Aug. 2016 to Aug. 2018</b>	<b>Assistant Professor</b> Dept. of Physics, K.L.E. Institute of Technology, Hubballi-30, India.
<b>Feb. 2013 to July 2016</b>	<b>Research Scholar</b> Dept. of Physics Karnatak University, Dharwad-03, India.
<b>Aug. 2012 to Jan. 2013</b>	<b>Teaching Assistant</b> Dept. of Physics Karnatak University, Dharwad-03, India

#### • Education:

**Feb 2013-Jan 2017.....**Dept. of Physics

Karnatak University, Dharwad-03, India.

**Ph.D. in Physics**

Title of Ph.D. Thesis: **“Fluorescence and Laser spectroscopic investigation of nanoparticles”**

Thesis Supervisor: **Prof. Sanjeev R. Inamdar**

**July 2010- June 2012.....**Dept. of Physics

Karnatak University, Dharwad-03, India.

**M.Sc. in Physics (Spectroscopy) with 83.9%**

**July 2007- June 2010.....**Karnatak Science College, Dharwad-03, India.

**B.Sc. (Physics, Mathematics and Electronics) with 80.8%**

- **Honors and Awards:**

- Awarded Scholarship under UGC-University with Potential for Excellence to carry out Doctoral research work during Feb. 2013 to Feb.2016.
- Honored as Judge for paper/poster presentation in UGC sponsored national level conference on Advances in VLSI and Microelectronics held at PC Jabin Science College Hubballi on 27.01.2017.
- Honored as Judge for INSPIRED AWARD (DLEPC-7 & 8) district level exhibitions and project competitions during 23.01.2018 to 24.01.2018 in Dharwad.

- **MEMBERSHIP to Professional Bodies:**

- Indian Science Congress Association (ISCA), Kolkata, India.
- Luminescence Society of India (LSI), Baroda, India.
- SPIE Early Career Professional Member.
- International Association of Engineers.
- International Society for Research and Development.

- **Research Areas/Interests:**

- **Current research interests are:**

- 1) FRET studies using nanoparticle-dye systems.
- 2) Interaction of biomolecules with nanoparticles using various spectroscopic techniques.
- 3) Applications of lasers in biology to study thickness of frog egg jelly membranes and proteins.
- 4) Studying the Electronic and Optical properties of Graphene quantum dots.

- **Instruments acquainted with:**

- Pico-second and nano-second Nd-YAG pulsed lasers (Continuum)
- He-Ne and Argon Ion continuous laser
- Uv-vis absorption spectrophotometer
- Horiba Jobin Yvon Fluoromax-4 spectrofluorometer
- ISS chronous BH TCSPC instrument
- Nikon inverted microscope
- Lambertz FLIM imaging microscope
- DAS-6 and vinci multi dimensional programming while working with TCSPC
- Grating and constant deviation spectrophotometers
- USB spectrophotometers
- Expertise in constructing spectrophotometer using ICCD and photo multiplier tube (PMT) detector.

- **Positions held:**

- **Coordinator**, Dept. of Physics, VSK University, Ballari (02.01.2019 to till today)
- **Chairman, BOE**, Dept. of Physics, VSK University, Ballari (2018-19)
- **NBA coordinator**, Dept. of Physics, KLE Institute of Technology, Hubballi-30 (01.08.2016 to 01.08.2018).

- **Research Publications (International):**

- **Books:**

- [1] Current Trends in QD Based Fluorescence Resonance Energy Transfer, Lambert Academic Publishing, ISBN: 978-613-9-81674-3, (2018).  
Sanjeev R. Inamdar, M.A. Shivkumar, K.S. Adarsh, **M.G. Kotresh**, M.S. Sannaikar, Laxmi.S. Inamdar, B.N. Jagatap, Nafisa Balsinoor, B.G.Mulimani, M.I. Savadatti.

- **Refereed Journals:**

- [1] Composition-dependent energy transfer from alloyed ternary CdSeS/ZnS quantum dots to Rhodamine 640 dye  
Krishna Shetti Adarsh, **Mare Goudar Kotresh**, Shivkumar Math Amarayya, Sanjeev Ramchandra Inamdar. *J. of Nanophotonics*, 12(4), 046016 (2018).
- [2] Interaction and energy transfer studies between Bovine Serum Albumin and CdTe QDs conjugates: CdTe QDs as energy acceptor probes  
**M.G. Kotresh**, L.S. Inamdar, M.A. Shivkumar, K.S. Adarsh, B.N. Jagatap, B.G.Mulimani, Gopal M. Advirao and S.R. Inamdar, **Luminescence (Wiley) 2016, DOI: 10.1002/bio.3231**
- [3] Steady State and Time Resolved Spectroscopic Study of CdSe and CdSe/ZnS QDs: FRET Approach  
**M.G. Kotresh**, K.S. Adarsh, M.A. Shivkumar, S.R. Inamdar. **J Fluorescence, 2016, DOI: 10.1007/s10895-016-1812-5.**
- [4] Spectroscopic investigation of alloyed quantum dot-based FRET to cresyl violet dye.  
**M.G. Kotresh**, K.S. Adarsh, M.A. Shivkumar, B.G. Mulimani, M.I. Savadatti, S.R. Inamdar. **Luminescence (Wiley) 2016;31:760-768.**
- [5] Spectroscopic Signature of Semiconductor QDs: FRET Between CdTe QDs and Cresyl Violet dye.  
**M.G. Kotresh**, M.A. Shivkumar, K.S. Adarsh, S.R. Inamdar. **Int. J. Lumin. App. 5 (2015) 20-23.**
- [6] Spectroscopic investigation of water-soluble alloyed quantum dots with bovine serum albumin.  
K.S. Adarsh, M.K. Singh, **M.G. Kotresh**, L.S. Inamdar, M.A. Shivkumar, B.N. Jagatap, B.G. Mulimani, S.R. Inamdar. **Luminescence (Wiley) 2016, DOI: 10.1002/bio.3145.**
- [7] Photo Physical Studies of Silver Nanoparticles on ADS740WS Fluorescent Dye.  
**M.G. Kotresh, IEEE, DOI: 10.1109/ICOE.2012.6409600**

- [8] Design of "CdTe QD-RH 101 Dye" FRET Pair as a new Light harvesting systems  
**M.G. Kotresh** and S.R. Inamdar. **Optics Express (To be communicated)**.
- [9] Spectroscopic studies on the interaction of human serum albumin with gold nanoparticles  
**M.G. Kotresh** and S.R. Inamdar. **Colloids and interfaces B (To be communicated)**.
- [10] Homo FRET from smaller CdTe QDs to larger CdTe QDs  
**M.G. Kotresh** and S.R. Inamdar. **J. Physical chemistry A (To be communicated)**.

• **Conference Papers:**

- [1] Design of "CdTe QD-RH 101 Dye" FRET Pair as a new light harvesting systems  
**M.G. Kotresh**, M.A. Shivkumar, K.S. Adarsh, S.R. Inamdar, 13th DAE-BRNS Biennial, TSRP - APSRC – 2016, Jan 5-9, 2016, Mumbai, India.
- [2] FRET mediated light harvesting in water using aqueous CdTe quantum dot antennas  
**M.G. Kotresh**, K.S. Adarsh, M.A. Shivkumar, S.R. Inamdar, ICMSIRSA-2016, Jan 28-30, Kolhapur, India.
- [3] Spectroscopic Signature of Semiconductor QDs: FRET between CdTe QDs and Cresyl Violet dye  
**M.G. Kotresh**, K.S. Adarsh, M.A. Shivkumar and S.R. Inamdar, 5<sup>th</sup> International Conference on Luminescence and its Applications (ICLA-2015) February 9-12, **2015**, Bengaluru, India.
- [4] Quantum Dots Blinking: Super-Resolution Imaging Microscopy  
M.A. Shivkumar, **M.G. Kotresh**, K.S. Adarsh, and S.R. Inamdar, 13th DAE-BRNS Biennial, TSRP - APSRC - **2016**, Jan 5-9, 2016, Mumbai, India.
- [5] Spectroscopic Investigation of Alloyed QD Based FRET to Laser Dye  
K.S. Adarsh, **M.G. Kotresh**, M.A. Shivkumar and S.R. Inamdar, 13th DAE-BRNS Biennial, TSRP - APSRC - 2016, Jan 5-9, **2016**, Mumbai, India.
- [6] Lifetime and temperature dependence of band gap in core CdSe quantum dots  
K.S. Adarsh, M.A. Shivkumar, **M.G. Kotresh** and S.R. Inamdar, ICMSIRSA-2016, Jan 28-30, **2016** Kolhapur, India.
- [7] Composition dependent energy transfer from alloyed quantum dots to laser dye  
K.S. Adarsh, M.A. Shivkumar, **M.G. Kotresh** and S.R. Inamdar, DAE-BRNS National Laser Symposium (NLS-23), Sri Venkateswara University, Tirupati, December 3-6, **2014**.
- [8] Synchronous spectrofluorometry as a novel tool to study photo- physical properties of core CdSe and core-shell CdSe/ZnS QDs  
M.A. Shivkumar, K.S. Adarsh, **M.G. Kotresh** and S.R. Inamdar, Indian Science Congress Association, University of Jammu, Jammu, Feb. 3-7, **2014**.
- [9] Photo Physical Studies of Silver Nanoparticles on ADS740WS Fluorescent Dye.  
**M.G. Kotresh**, International Conference on Optical Engineering (ICOE), July 26-28, **2013**.

- **Workshops Attended:**

- [1] Electric Power System, conducted by Indian Institute of Technology, Kharagpur under the National Mission on Education through ICT (MHRD) program, at KLE Institute of Technology, Hubballi, June 12<sup>th</sup> to 15<sup>th</sup> 2017.
- [2] Laser Science and Applications, under UGC-CAS Programme (Phase-1) at Dept. of Physics, Karnatak University, Dharwad, March 8-9, 2013.
- [3] Photon and Ion Induced X-Ray Emission Spectroscopy (PIXS); Applications in Basic and Applied Science by BARC and KUD at Dept. of Physics, Karnatak University, Dharwad, Feb. 23-25, 2012.
- [4] Frontiers of Condensed Matter Physics, under UGC-CAS Programme (Phase-I) at the Dept. of Physics, Karnatak University, Dharwad, March 28-29, 2011.
- [5] DAE-Symposium on Atomic, Molecular and Optical Physics (SAMOP-2011) at Dept. of Physics, Karnatak University Dharwad, Feb. 22-25, 2011.
- [6] Proceedings of seminar on the role of nuclear energy in development of India by NPCIL, Kaiga at Dept. of Physics, Karnatak University, Dharwad. June 2011.
- [7] Opto-electronics and photonics by IEEE, Bangalore, at Dept. of Physics, Karnatak University, Dharwad, Oct 9<sup>th</sup> 2010.