

## Dr. K. R. Justin Thomas

### *Assistant Professor*

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### Short Bio-data

- ✈ M.Sc. (Chemistry, The American College, Madurai, India, 1990)
- ✈ Ph.D. (Chemistry, Department of Chemistry, Indian Institute of Technology Kanpur, 1995)
- ✈ Senior Project Officer Gr II (SAIF, Indian Institute of Technology Madras, 1995-1997)
- ✈ Post-doctoral fellow (Institute of Chemistry, Academia Sinica, Taipei, 1997-2003 & 2004-2006)
- ✈ Post-doctoral fellow (Department of Chemistry, University of Massachusetts at Amherst, USA, 2003-2004)
- ✈ Assistant professor (Mar 2006 onwards)

### Research Interests

- Organic and Organometallic Materials
- Light-Emitting Macromolecules
- Supramolecular Chemistry
- Fabrication and Characterization of Electronic Devices such as OLED and Dye-Sensitized Solar Cells.

### Awards/Fellowships

- ✎ Awarded a grant-in-aid under the DST young scientists' scheme for two years (1995-1997)
- ✎ Received post-doctoral fellowship from National Science Council, Taipei, Taiwan (1997-2003).
- ✎ Received National Merit Scholarship during M.Sc. (1988-1990).

### Publications

- \* Refereed journal publications: 64
- \* Conference proceedings: 3
- \* Patents: 3 (United States) + 2 (Taiwan)

### Selected Publications

1. Donor-Acceptor Interactions in Red-Emitting Thienylbenzene-Branched Dendrimers with Benzothiadiazole Core, **new**  
K. R. Justin Thomas, T.-H. Huang, J. T. Lin, S.-C. Pu, Y.-M. Cheng, C.-C. Hsieh, C. P. Tai, *Chem. Eur. J.*, **2008**, 14, 11231-11241.
2. 2,3-Disubstituted Thiophene-Based Organic Dyes for Solar Cells, **new**  
K. R. Justin Thomas, Y. C. Hsu, J. T. Lin, K. M. Lee, K. C. Ho, C. H. Lai, Y. M. Cheng, and P. T. Chou, *Chem. Mater.* **2008**, 20, 1830-1840.

3. Synthesis, structure and electroluminescent properties of cyclometalated iridium complexes possessing sterically hindered ligands,  
M. Velusamy, K. R. Justin Thomas, C. H. Chen, J. T. Lin, Y. S. Wen, W. T. Hsieh, C. H. Lai, and P. T. Chou, *Dalton Trans.* **2007**, 3025-3034
4. Star-like fluorene based polyamines: non-conjugated building blocks for light-harvesting materials,  
K. R. Justin Thomas, Jiann T. Lin, Chien-Min Tsai and Hong-Cheu Lin, *Tetrahedron*, **2006**, 62, 3517-3522.
5. Organic Dyes Containing Thienylfluorene Conjugation for Solar Cells,  
K. R. Justin Thomas, Jiann T. Lin, Ying-Chan Hsu and Kuo-Chuan Ho, *Chem. Commun.* **2005**, 4098-4100
6. Energy and Electron Transfer in Bifunctional Non-conjugated Dendrimers,  
K. R. Justin Thomas, A. L. Thompson, S. V. Aathimanikandan, C. J. Bardeen and S. Thayumanavan, *J. Am. Chem. Soc.* **2005**, 127, 373-383.
7. Dependence of the Two-Photon Absorption Cross Section on the Conjugation of the Phenylacetylene Linker in Dipolar Donor-Bridge-Acceptor Chromophores,  
S. Lee, K. R. Justin Thomas, S. Thayumanavan and C. J. Bardeen, *J. Phys. Chem. A* **2005**, 109, 9767-9774.
8. Using Meta Conjugation To Enhance Charge Separation versus Charge Recombination in Phenylacetylene Donor-Bridge-Acceptor Complexes,  
A. L. Thompson, T.-S. Ahn, K. R. Justin Thomas, S. Thayumanavan, T. J. Martinez and C. J. Bardeen, *J. Am. Chem. Soc.* **2005**, 127, 16348-16349.
9. Chromophore Labeled Quinoxaline Derivatives as Efficient Electroluminescent Materials,  
K. R. Justin Thomas, M. Velusamy, J. T. Lin, Y.-T. Tao and C.-H. Chuen, *Chem. Mater.* **2005**, 17, 1860-1866.
10. Energy harvesting star-shaped molecules for electroluminescence applications,  
K. R. Justin Thomas, M. Velusamy, J. T. Lin, S.-S. Sun, Y.-T. Tao and C.-H. Chuen, *Chem. Commun.* **2004**, 2328-2329.

## Patents

1. Organometallic Compounds,  
J. T. Lin, I.-Y. Wu, and K. R. Justin Thomas,  
United States Patent No. **US6140503 (2000)**.
2. 3,6,9-Trisubstituted Carbazoles for Light Emitting Diodes,  
J. T. Lin, K. R. Justin Thomas, Y.-T. Tao and C.-W. Ko,  
United States Patent No. **6,649,772 (2003)**.
3. 3,6,9-Trisubstituted Carbazoles,  
J. T. Lin, K. R. Justin Thomas, Y.-T. Tao and C.-W. Ko,  
Taiwan Patent No. **I 297038 (2008)**. **new**
4. Organic Dye Used in Dye-Sensitized Solar Cell, M. Velusamy, K. R. Justin Thomas, J. T. Lin, K. C. Ho and Y. C. Hsu,  
United States Patent No. **7,446,207B2 (2008)**. **new**
5. Organic Dye Used in Dye-Sensitized Solar Cell, K. R. Justin Thomas, M. Velusamy, J. T. Lin, K. C. Ho and Y. C. Hsu,  
Taiwan Patent No. **I304065 (2008)**. **new**