

Dr. P. C. Nandajan

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PERSONAL

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ACADEMIC BACKGROUND

- Ph. D. (2015), Kerala University, Trivandrum, Kerala, India, Thesis entitled “SYNTHESIS OF CYCLOPHANES AND INVESTIGATION OF THEIR INTERACTIONS WITH BIOMOLECULES AND VOLATILE ORGANIC COMPOUNDS”.
- M.Sc. Applied Chemistry (2007), University of Calicut, Kerala, India, first class with distinction (70.9 %).
- B.Sc. in chemistry (Main) with physics and mathematics as subsidiary subjects (2005), University of Calicut, Kerala, India, first class (89.5 %).

RESEARCH INTERESTS

- ✚ Synthesis and molecular recognition properties of novel organic molecules.
- ✚ Advanced photophysics of organic conjugated materials.
- ✚ Theoretical and computational chemistry

TEACHING INTERESTS

- ✚ Supramolecular Chemistry.
- ✚ Physical Organic Chemistry.
- ✚ Advanced Topics in Photophysics.
- ✚ Theoretical chemistry.

TEACHING EXPERIENCE

- ✚ September 2015 – November 2015: **Assistant Professor** at the Department of Chemistry, DGMMES Mampad College, Mampad, Malappuram, India. Handled Group theory classes for Master Students in chemistry.
- ✚ June 2018 – till date: **Professor** at the Department of Chemistry, MES College, Nedumkandam, Idukki, India. Handled Organic chemistry classes for Bachelor Students in chemistry.

RESEARCH EXPERIENCE

- June 2008 – December 2008: **Junior Project Fellow (JPF)** in a Department of Science and Technology (DST) sponsored project at the Photosciences and Photonics Group, CSIR-NIIST, Trivandrum, under the supervision of Dr. D. Ramaiah.
- January 2009 – December 2010: **Junior Research Fellow (JRF)** at the Photosciences and Photonics Group, CSIR-NIIST, Trivandrum, under the guidance of Dr. D. Ramaiah.
- January 2011 – April 2015: **Senior Research Fellow (SRF)** at the Photosciences and Photonics Group, NIIST, Trivandrum, under the guidance of Dr. D. Ramaiah.
- November 2015 – May 2018: **Postdoctoral Fellow** at Molecular Nanoscience division, IMDEA Nanoscience, Madrid, Spain under the supervision of Dr. Johannes Gierschner.

TECHNICAL EXPERIENCE

Experimental & Analytical skills:

- Advanced knowledge in design, synthesis and characterization of supramolecular soft materials with diverse morphology and properties.
- Photophysical Studies: UV/Vis-NIR spectrophotometer, spectrofluorimeter, CD spectrometer, time correlated single photon counting system (TCSPC).
- Material Characterization: DSC, TGA and dynamic light scattering (DLS)
- Morphological Characterization: Fluorescence microscope, SEM, AFM and TEM.
- Spectroscopy-Characterization: NMR, FT-IR, HRMS and MALDI-TOF.
- Thermodynamic Techniques: Isothermal Titration Calorimeter (ITC)

AWARDS AND FELLOWSHIPS

1. Junior Research Fellowship (**JRF**) and National Eligibility Test (**NET**) for college lecturer, from Council of Scientific and Industrial Research (CSIR), Government of India, June 2008.
2. Senior Research Fellowship (**SRF**), CSIR, Government of India, July 2010.

3. **Best poster award** – 14th Chemical Research Society of India (CRSI) National Symposium in Chemistry, CSIR-NIIST, Trivandrum, India, 2012.

PUBLICATIONS

1. Kuruvilla, E.; **Nandajan, P. C.**; Schuster, G. B. and Ramaiah, D.*
Acridine-Viologen Dyads: Selective Recognition of Single-Strand DNA through Fluorescence Enhancement.
[Org. Lett. 2008, 10, 4295-4298](#)
2. Neelakandan, P. P.; **Nandajan, P. C.**; Subymol, B. and Ramaiah, D.*
Study of cavity size and nature of bridging units on recognition of nucleotides by cyclophanes. (Cover page)
[Org. Biomol. Chem. 2011, 9, 1021-1029.](#)
3. **Nandajan, P. C.**; Neelakandan, P. P. and Ramaiah, D.*
Interplay of monomer, intra- and intermolecular excimer fluorescence in cyclophanes and selective recognition of methanol vapours.
[RSC Adv. 2013, 3, 5624-5630.](#)
4. Viji, M.; Nair, A. K.; **Nandajan, P. C.** and Ramaiah, D.*
Fluorescent Chemodosimeter Based on NHC Complex for Selective Recognition of Cyanide Ions in Aqueous Medium.
[RSC Adv. 2014, 4, 47982-47986.](#)
5. Kim, H.-J.; **Nandajan, P. C.** Gierschner, J. * and Park, S. Y.*
Light-Harvesting Fluorescent Supramolecular Block Copolymers Based on Cyanostilbene Derivatives and Cucurbit[8]urils in Aqueous Solution. (Cover page)
[Adv. Funct. Mater. 2018, 28, 1705141.](#)
6. **Nandajan, P. C.**; Kim, H.-J.; Casado, S.; Park, S.Y.* and Gierschner, J. *
Insight into Water-Soluble Highly Fluorescent Low-Dimensional Host-Guest Supramolecular Polymers: Structure and Energy Transfer Dynamics Revealed by Polarized Fluorescence Spectroscopy.
[J. Phys. Chem. Lett. 2018, 9, 3870-3877.](#)
7. Singh, V. K.; Yu, C.; Badgujar, S.; Kim, Y.; Kwon, Y.; Kim, D.; Lee, J.; Akhter, T.; Thangavel, G.; Park, L.S.; Lee, J.; **Nandajan, P. C.**; Kim, K. S.*; Gierschner, J.* and Kwon, M. *
Highly efficient purely organic photoredox catalysts discovered via a systematic computer-aided-design strategy for visible-light-driven atom transfer radical polymerization.
[Nature Catalysis, 2018, 1, 794-894.](#)