

Noufal KANDOTH

Associate Professor

Physical Inorganic Chemistry

School of Chemical Science
Mahatma Gandhi University
Kottayam, Kerala, India



Email: noufakandoth@gmail.com

Research and Teaching Experience

- **Associate Professor**

School of Chemical Science, Mahatma Gandhi University, Kottayam, Kerala, India

Inorganic chemistry

2025-Present
- **Research Assistant Professor**

SRM IST Kattankulathur, Chennai, India

Photobiocatalysis

2025
- **SRA Pool Scientist**
(Prof. Amitava Das)

IISER Kolkata, India

Inorganic nanomaterials/assemblies for nanomedicine

2024-2020
- **Postdoc Research**
(Prof. J. Lloret-Fillol)

ICIQ, Barcelona Institute of Science and Tech., Tarragona, Spain

Inorganic photochemistry, solar fuels

2020- 2015
- **Assistant Professor**

National Institute of Technology, Karnataka, India

Teaching Chemistry-Graduate and undergraduate BTech. courses

2015
- **Postdoc Research**
(Prof. Mauro Freccero)

ISOF, National Research Council, Bologna, Italy

2015-2014
- **Doctoral Research**
(FP7-ITN Early-Stage Researcher)

University of Catania, Italy

Bioinorganic chemistry

2012-2009
- **Marie Curie Early-Stage Researcher**

University of Catania, Italy

2013-2010
- **Project Intern**

Mahatma Gandhi University, Kerala, India

2010
- **Master Research Intern**

Bhabha Atomic Research Center (B.A.R.C), India

2009-2008
- Authored 34 publications (13 first authorship) in international peer reviewed journals (ACS, RSC, Wiley).

Education

- **University of Catania, Catania, Italy**

Design, synthesis and characterization of Cyclodextrin based photoactivable nanoparticles for multimodal anticancer therapy.

Supervisor: Prof. Salvatore Sortino

PhD
(Chemistry)

2013-2010

<ul style="list-style-type: none"> ▪ Mahatma Gandhi University, Kottayam, Kerala, India <i>Interaction of flavin adenine dinucleotide & riboflavin with cyclodextrins: a photophysical study</i> (Dr. H. Pal group, Radiation & Photochemistry Division, B.A.R.C., India). 	Masters (Physical chemistry)	2009-2007
<ul style="list-style-type: none"> ▪ University of Calicut, Calicut, Kerala, India <i>Industrial processing of natural rubber- A chemical study.</i> 	Bachelor of Science (Chemistry)	2007-2004

Awards and Scholarship

▪ ANRF Early Career Research Grant by ANRF India, ~55 Lakhs.	2025
▪ CSIR SRA-Scientist Pool Scheme, IISER Kolkata, India.	2020
▪ Marie Sklodowska-Curie Actions, Zeal of Excellence for the IF proposal 2019 (91/100).	2020
▪ Juan de la Cierva Fellowship for doing Postdoc research at ICIQ, Tarragona, Spain.	2020-2018
▪ Best Poster Prize, Photo4Future: Symposium on Photochemistry, 12-14 November 2018, Eindhoven University of Technology, Netherlands.	2018
▪ ERC Fellowship for doing Postdoc at ICIQ, Tarragona, Spain.	2017-2015
▪ EPA PhD prize for the best doctoral thesis in the European photochemistry: Runners up.	2014
▪ Elected as mentor and tutor for the undergraduate students in Biomolecular chemistry at Elected as mentor and tutor for the undergraduate students in Biomolecular chemistry at University of Catania, Italy.	2013-2012
▪ Marie Curie Initial Training Networks, ITN (Cyclon/No. 237962, FP7-PEOPLE-ITN-2008, E. U.) Scholarship for doing PhD in chemical science.	2010-2013
▪ National scholarship (funded by Indian Academy of Sciences) for summer research carried out at B.A.R.C., Mumbai, India.	2009

Publications (Average Impact Factor: 17, Total citation= 975, H-index= 17)¹

1. S. Pramanik, S. Sridharan, N. Kandoth, A. Das, J. Thomas, *Nat. Rev. Chem.*, 2025, Accepted.
2. S. Bej, S. Dutta, S. S. Pasha, A. K. Dey, D. Roy, N. Kandoth, N. Khilari, D. Koley, S. K. Pramanik, A. Das, *Small*, 2409235, 2024.
3. A. Sarkar, A. K. Pal, A. Kumar, S. Dasgupta, N. Kandoth,* A. Datta, A. Dattta, S. S. Gupta, *Inorg. Chem.*, 63, 20737, 2024.
4. N. Kandoth,* A. Das, *Curr. Ind. Sci.*, Accepted, DOI: 10.2174/012210299X32156724072607184, 2024.
5. N. Kandoth,* S. Gupta, K. Raksha, S. Gupta, S. P. Chaudhary, S. K. Pramanik, A. I. Mallick, S. Bhattacharyya, A. Das, *Adv. Funct. Mater.* 34, 28, 2400998, 2024.
6. A. K. Dey, S. Sreedharan, S. M. Jose, P. Patra, N. Kandoth, S. Barman, A. Patra, A. Das, S. K. Pramanik, *Chem. Sci.*, 15, 10935-10944, 2024.
7. N. Kandoth,* S. P. Chaudhary, S. Gupta, K. Raksha, A. Chatterjee, S. Gupta, S. Karuthedath, C. S. P. De Castro, F. Laquai, S. K. Pramanik, S. Bhattacharyya, A. I. Mallick, A. Das, *ACS Nano*, 17, 11, 10393–10406, 2023.
8. P. Datta, T. Goswami, N. Kandoth, A. Banik, J. Ahmed, A. S. Bhaskaran, R. Saha, R. Kuniyil, H. N. Ghosh, S. K. Mandal, *ChemPhotoChem*, 7, 6, e202300033, 2023.

¹ <https://scholar.google.it/citations?user=0Te7Z8gAAAAJ&hl=en>

25148–25160, 2023.

10. S. S. Pasha, A. Banerjee, S. Sreedharan, S. Singh, **N. Kandoth**, K. A. Vallis, S. K. Pal, S. K. Pramanik, A. Das, *Inorg. Chem.* **61**, 13115–13124, 2022.
11. S. K. Pramanik, S. Sreedharan, R. Tiwari, S. Dutta, **N. Kandoth**, S. Barman, S. O Aderinto, S. Chattopadhyay, A. Das, J. A. Thomas, *Chem. Soc. Rev.*, **51**, 9882–9916, 2022.
12. P. Choudhary, S. Biswas, **N. Kandoth**, D. Tayde, A. Chatterjee, XX, S. K. Pramanik, *Iscience* **25**, 104062, 2022.
13. Photoinduced electron-transfer in coordination compounds with first row transition metals: Fundaments and catalytic applications, **N. Kandoth**, M. Claros, N. Rodriguez, J. Lloret-Fillol, Springer Handbook of Inorganic Photochemistry Ed., D, *Springer Handbook of Inorganic Photochemistry Ed.*, **D**, 493–546, ISBN978-3-030-63713-2, 2022.
14. **N. Kandoth**,* J. P Hernández, E. Palomares, J. Lloret-Fillol, *Sustain. Energy Fuels*, **5**, 638–665, 2021.
15. **N. Kandoth**,* S. Barman, A. Chatterjee, S. Sarkar, A. K. Dey, S. K. Pramanik, A. Das, *Adv. Funct. Mater.*, **31**, 43, 2104480, 2021.
16. L. Gutiérrez, S. Sekhar Mondal, A. Bucci, **N. Kandoth**, E. C. E. -Adrán, A. Shafir, J. L. -Fillol, *ChemSusChem*, **13**, 3418–3428, 2020.
17. A. Call, F. Franco, **N. Kandoth**, S. Fernandez, J. M. Luis and J. Lloret-Fillol, *Chem. Sci.*, **9**, 2609, 2018.
18. A. Fraix, **N. Kandoth**, R. Gref, S. Sortino, *Asian J. Org. Chem.*, **4**, 256–261, 2015.
19. F. Doria, A. Oppi, F. Manoli, S. Botti, **N. Kandoth**, V. Grande, I. Manet, M. Freccero, *Chem. Commun.*, **51**, 44, 9105–9108, 2015.
20. **N. Kandoth**, V. Kirejev, M. B. Ericson, R. Gref, S. Monti, S. Sortino, *Biomacromolecules*, **15**, 5, 1768, 2014.
21. S. Swaminathan, J. G-Amorós, A. Fraix, **N. Kandoth**, S. Sortino, F. M. Raymo, *Chem. Soc. Rev.*, **43**, 4167, 2014.
22. V. Kirejeev, **N. Kandoth**, M. B. Ericson, R. Gref, S. Sortino, *J. Mat. Chem. B*, **2**, 1190–95, 2014.
23. A. Fraix, **N. Kandoth**, S. Sortino, *Photochemistry, RSC*, **41**, 302–318, 2013.
24. P. T. Blanco, J. P. Juste, **N. Kandoth**, P. Hervés, S. Sortino, *J. Colloid. Interf. Sci.*, **407**, 524–528, 2013.
25. **N. Kandoth**, J. Mosinger, R. Gref, S. Sortino, *J. Mat. Chem. B*, **1**, 3458–3463, 2013.
26. A. Fraix, **N. Kandoth**, I. Manet, V. Cardile, A. C. E. Graziano, R. Gref, S. Sortino, *Chem. Commun.*, **49**, 4459–4461 (Back Cover), 2013.
27. E. Deniz, **N. Kandoth**, A. Fraix, V. Cardile, A. C. E. Graziano, D. L. Furno, R. Gref, F. M. Raymo, S. Sortino, *Chem. Eur. J.*, **18**, 49, 15782–15787, 2012.
28. **N. Kandoth**, M. Malanga, A. Fraix, L. Jicsinszky, E. Fenyvesi, T. Parisi, I. Colao, M. T. Sciortino, S. Sortino, *Chem. Asian J.*, **7**, 12, 2888–94, 2012.
29. A. Mazzaglia, M. T. Sciortino, **N. Kandoth**, S. Sortino, *J. Drug Del. Sci. Tech.*, **22**, 3, 235–242, 2012.
30. **N. Kandoth**, E. Vittorino, M. T. Sciortino, I. Colao, A. Mazzaglia, S. Sortino, *Chem. Eur. J.*, **18**, 1684–1690, 2012.
31. **N. Kandoth**, E. Vittorino, S. Sortino, *New J. Chem.*, **35**, 52–56, 2011.
32. **N. Kandoth**, S. D. Choudhury, J. Mohanty, A. C. Bhasikuttan, H. Pal, *J. Phys. Chem. B*, **114**, 2617–2626, 2010.
33. **N. Kandoth**, S. D. Choudhury, T. Mukherjee, H. Pal, *Photochem. Photobiol. Sci.*, **8**, 82–90, 2009.

Oral/ Poster Presentations (International)

1. Multimodal Biofilm Inactivation Using Photocatalytic Bismuth Perovskite-TiO₂-Ru(II)polypyridyl complex-based M-Scheme Heterojunctions, **N. Kandoth***, K. Raksha, and A. Das, Sustainability & Interdisciplinarity

in Chemical Sciences (SICS 2023), 60th Foundation Day Celebration of the 'Indian Photobiology Society', July 13-15, IISER Kolkata, Mohanpur, India, (Invited Lecture).

2. Photocatalytic Bismuth Perovskite-TiO₂-Ru(II)polypyridyl Hybrid with M-scheme Heterojunctions Towards Biofilm Inactivation, **N. Kandoth**, K. Raksha, A. Das, Bhabha Atomic Research Centre, Trombay, Mumbai-400 085, India. & Indian Society for Materials Chemistry (ISMC), Dec. 7-10, 2022 (Poster).
3. Revisiting the mechanism of reductive electron transfer between iridium based complex and electron donor, **N. Kandoth**, M. González-Béjar, J. Pérez-Prieto, J. Lloret-Fillol, Photo4Future: Symposium on Photochemistry, 12-14 November 2018, Eindhoven University of Technology, Netherlands (Best Poster Price).
4. Photocatalytic H₂ evolution with a rhodamine labelled cyclodextrin based supramolecular assembly, **N. Kandoth**, C. Casadevall, F. Franco, A. Casitas, L. Szenté, M. Malanga, J. Lloret-Fillol, ISPPCC Conference, 09-14 July 2017, St. Catherines College, Oxford, UK (Poster).
5. Mechanistic insights into the photocatalytic water reduction reaction mediated by cobalt complexes and iridium photosensitizer, **N. Kandoth**, A. Call, F. Franco, J. Lloret-Fillol, XXXVI Biennial Meeting of the Spanish Royal Society of Chemistry (RSEQ), 25-29 June 2017, Meliá Hotel, Sitges, Barcelona, Spain (Poster).
6. Water soluble naphthalenediimides as singlet oxygen sensitizers, fluorescence reporters and G quadruplex ligands, **N. Kandoth**, E. Salviati, F. Doria, F. Manoli, A. Biroccio, M. Freccero and I. Manet, Italian Photochemistry Meeting 2014, 27-29 November 2014, Abbazia di Morimondo, Cascina Caremma, Milan, Italy (Oral).
7. Polymer based supramolecular nanoconstructs with two-photon fluorescence imaging and Bimodal Therapy, **N. Kandoth**, V. Kirejev, R. Gref, M. B. Ericson, S. Sortino, International Conference on Nanobiomaterials, 4-6 July 2014, Mahatma Gandhi University, India, (Oral).
8. Cyclodextrin-based photocage for nitric oxide release and two-photon fluorescence reporting, **N. Kandoth**, V. Kirejev, A. Fraix, M. B. Ericson, R. Gref, S. Sortino, National Conference CD.TE.C., 9-11 May 2013, Giardini Naxos (ME), Italy, (Oral).
9. Cyclodextrin based nanoparticles for light controlled nitric oxide release and two-photon fluorescence reporting in cells, **N. Kandoth**, V. Kirejev, R. Gref, M. Ericson, S. Sortino, NanoPDT2013, 11-12 April 2013, Gothenburg, Sweden, (Oral).
10. Photoactivated nanoassemblies with bimodal photodynamic actions, **N. Kandoth**, A. Fraix, J. Mosinger, R. Gref, S. Sortino, 4th EUChem Conference, 26-30 August 2012, Prague, Czech Republic (Oral).
11. A photoactivable hydrogel with bimodal bactericide action, **N. Kandoth**, R. Gref, J. Mosinger, S. Sortino, XXIV IUPAC Symposium on Photochemistry, 15-20 July 2012, Coimbra, Portugal (Oral).
12. Cyclodextrin-based polymer nanoparticles for photoactivated multimodal therapy, A. Fraix, **N. Kandoth**, R. Gref, S. Sortino, CRS Nordic Chapter: Drug Delivery and Targeting, 3-5 June 2012, Reykjavik, Iceland (Oral).
13. Photoactivated nanoassemblies with bimodal photodynamic action, **N. Kandoth**, E. Vittorino, M. T. Sciortino, L. Valli, A. Mazzaglia, R. Gref, S. Sortino, XXVth International Conference on Photochemistry, 7-12 August 2011, Beijing, China (Oral).
14. A cyclodextrin-based nanoassembly for photoactivated bimodal therapy, **N. Kandoth**, E. Vittorino, M. T. Sciortino, T. Parisi, I. Colao, A. Mazzaglia, S. Sortino, Annual Italian Conference on Photochemistry, 10-12 June 2011, Giardini Naxos, Italy (Oral).
15. Photoactivable nanoparticles for bimodal anticancer therapy, **N. Kandoth**, E. Vittorino, A. Mazzaglia, S. Sortino, 2nd Conference on Hybrid Materials, 6-10 March 2011, U. of Strasbourg, France (Oral).
16. Synthesis of an *S*-Nitroso-β-CD derivative: characterization and nitric oxide delivering properties, L. Piras, S. Sortino, **N. Kandoth**, K. Yannakopoulou, 13th Tetrahedron Symposium, 26 June 2012, Amsterdam, The Netherlands (Poster).
17. Simultaneous delivery of singlet oxygen and nitric oxide by photoexcitation of porphyrins entangled in polymer nanoparticles: A potential nanoconstruct for multimodal therapy, **N. Kandoth**, A. Fraix, R. Gref, S. Sortino, 13th RSC-SCI Joint Meeting on Heterocyclic Chemistry, 10-12 May 2012, Catania, Italy (Poster).
18. Fluorescent cyclodextrin aid in the development of novel anticancer therapy, M. Malanga, L. Jicsinszky, **N.**

Kandoth, S. Sortino, V. Agostoni, R. Gref, V. Kirejev, M. Ericson, É. Fenyvesi, 2nd European Conference on Cyclodextrins, 2-4 September 2011, Asti, Italy (Poster).

19. Synthesis and characterization of fluorescent cyclodextrin derivatives, M. Malanga, L. Jicsinszky, É. Fenyvesi, **N. Kandoth**, S. Sortino, Annual Italian Conference on Photochemistry, 10-12 June 2011, Giardini Naxos, Italy (Poster).
20. Host-Guest interaction of quinizarin with cyclodextrins, **N. Kandoth**, S. D. Choudhury, T. Mukherjee, H. Pal, International conference on Photochemistry and Photobiology-FLUORESCENCE-2009, 16-19 March 2009, Tata Institute of Fundamental Research, Mumbai, India (Poster).

Professional Development

- Training course for Postdocs; “Leadership in Action”, Barcelona Institute of Science and Technology, Barcelona, Spain. **2017**
- Refereed scientific journals including *ACS*, *Wiley-VCH*, *RSC* **Present-2014**
- **Summer Schools and Work shops**
- 1. Applications of nanodrugs in photodynamic therapy, University of Gothenburg, Sweden. **04/ 2013**
- 2. Advances in nanoparticulate drug carriers and current applications, University of Paris-Sud, Paris, France. **10/ 2012**
- 3. Photochemistry and applications in photoactivable anticancer drugs, ISOF-CNR, Bologna, Italy **09/2011**
- 4. 6th Summer School on Methods in Micro-Nanotechnology and Nanobiotechnology NCSR Demokritos, Athens, Greece. **09/2010**
- 5. From Laboratory to the market. An industrial view, CycloLAB, Hungary. **03/ 2013**

Fellowships (Detailed)

1. CSIR-SRA Pool Scientist Program at IISER Kolkata, India. **2024-2020**
2. Juan de la Cierva Postdoctoral grant, Spanish Education Ministry. **2020- 2018**
3. Towards a Greener Reduction Chemistry by Using Co Coordination Complexes as Catalysts and Light-driven Water Reduction as a Source of Reductive Equivalents, ERC Postdoc Fellowship, (Greenlight_Redcat, ERC-2015-CoG) under Prof. J. Lloret-Fillol, ICIQ, The Barcelona Institute of Science and Technology, Spain. **2017-2015**
4. Photoactive molecules targeting telomeric G-quadruplex as multimodal agents in anticancer therapy, AIRC Italian fellowship (AIRC IG 2013 N.14708) under Prof. M. Freccero, University Pavia and Dr. I. Manet, ISOF-CNR, Italy. **2015-2014**
5. Novel multifunctional cyclodextrin-based nanocarriers for drug encapsulation and delivery as a strategy to overcome current therapeutic drawbacks, FP7-ITN-Marie Curie Fellowship for doing PhD, (Project N°237962), E.U. under Prof. S. Sortino University of Catania, Italy. **2013-2010**

Personal Info

- Nationality: India
- Date of Birth: 31 May 1986
- Place: Calicut, Kerala, India