

Niranjan Meher, Ph.D.

DST-INSPIRE Faculty Fellow

Department of Biotechnology, National Institute of Pharmaceutical Education and Research,
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EDUCATION

2014 - 2019	Ph.D. (Chemistry) Department of Chemistry, Indian Institute of Technology Guwahati, Guwahati, Assam, India
2012 - 2014	M.Sc. (Organic Chemistry) Department of Chemistry, Sambalpur University, Sambalpur, Odisha, India
2009 - 2012	B.Sc. in Chemistry (Hons.) Sambalpur University, Sambalpur, Odisha, India

PROFESSIONAL EXPERIENCE

July 2023 – Present	DST-INSPIRE Faculty Fellow Department of Biotechnology, National Institute of Pharmaceutical Education and Research, Lucknow, U.P. India
Dec 2019 – June 2023	Postdoc (Prostate Cancer Radiotheranostic) Department of Radiology & Biomedical Imaging, University of California San Francisco, San Francisco, CA, USA

KEY RESEARCH EXPERIENCES

Organic Synthesis of Small Molecules & Polymers, Organic Nanoparticle Formulation, Fluorometric & Colorimetric Sensing Technology, Design and Development of Prostate Cancer Targeting Theranostic Drugs Including Small Molecules, Polymers, Nanoparticles, and Antibodies, In Vitro Cell Culture & Experiments, In Vivo Mouse Model Experiments, Radiotheranostics.

KEY RESEARCH INTERESTS

Prostate Cancer, Skin Cancer, Antibody-Drug Conjugates, Nanomedicine, Phototheranostics.

RESEARCH PUBLICATIONS

1. Chowdhury, S. R.; Agarwal, M.; **Meher, N.**; Muthuraj, B.; Iyer, P. K. Modulation of Amyloid Aggregates into Nontoxic Co-aggregates by Hydroxyquinoline Appended Polyfluorene. *ACS Appl. Mater. Interfaces*, **2016**, *8*, 13309–13319. (IF: 10.383)
2. **Meher, N.**; Chowdhury, S. R.; Iyer, P. K. Aggregation Induced Emission Enhancement and Growth of Naphthalimide Nanoribbons via J-aggregation: Insight into Disaggregation Induced Unfolding and Detection of Ferritin at the Nanomolar Level. *J. Mater. Chem., B* **2016**, *4*, 6023–6031. (IF: 7.571)

3. **Meher, N.;** Iyer, P. K. Pendant Chain Engineering to Fine-Tune the Nanomorphologies and Solid-State Luminescence of Naphthalimide AIEEgens: Application to Trinitrophenol Detection in Water. *Nanoscale* **2017**, *9*, 7674–7685. (IF: 8.307)
4. **Meher, N.;** Kalita, A.; Tanwar, A. S.; Adil, L. R.; Malik, A. H.; Hussain, S.; Iyer, P. K. Conjugated Smart Materials for Sensing Application on Multiple Platforms. *ISRAPS Bulletin*, **2018**, *30*, 14-31. (IF: NA)
5. Gopikrishna, P.;[†] **Meher, N.;**[†] Iyer, P. K. Functional 1,8-Naphthalimide AIE/AIEEgens: Recent Advances and Prospects. *ACS Appl. Mater. Interfaces*, **2018**, *10*, 12081–12111. ([†]Equal Contribution) (IF: 10.383)
6. **Meher, N.;** Panda, S.; Kumar S.; Iyer, P. K. Aldehyde Group Driven Aggregation-Induced Enhanced Emission in Naphthalimides and its Application for Ultradetection of Hydrazine on Multiple Platforms. *Chem. Sci.*, **2018**, *9*, 3978–3985. (This article is part of the themed collections: [Celebrating the Chemical Science in India - Leaders in the Field Symposium](#), [Most popular 2018-2019 materials chemistry articles](#), and [2018 International Open Access Week Collection](#)) (IF: 9.969)
7. Chowdhury, S. R.; Balaji, S. N.; Mondal, S.; **Meher, N.;** Trivedi, V.; Iyer, P. K.* Modulating Early Stage Oligomeric Amyloid Aggregates by Dipeptide Linked Perylenebisimides: Structure Activity Relationship, Inhibition of fibril formation in Human CSF and A β 1-40. *ACS Appl. Bio Mater.*, **2018**, *1*, 403-413. (IF: 4.90)
8. **Meher, N.;** Iyer, P. K. Spontaneously Self-assembled Naphthalimide Nanosheets: Aggregation Induced Emission and Unveiling a-PET for Sensitive Detection of Organic Volatile Contaminants in Water. *Angew. Chem. Int. Ed.*, **2018**, *57*, 8488 –8492. (IF: 16.823)
9. Dutta, P.; **Meher, N.;** Malik, A. H.; Choudhury, B.; Iyer, P. K.* Polyfluorene-Based Bioconjugates for Selective Detection of Ferritin in Normal and Cancer Human Blood Serums. *ACS Appl. Polym. Mater.*, **2019**, *1*, 18-26. (IF: 4.855)
10. Maharana, M.; Baruah, N.; Nayak, S.*; **Meher, N.;** Iyer, P. K. Condition Assessment of Aged Ester based Nanofluid Through Physicochemical and Spectroscopic Measurement. *IEEE Trans. Instrum. Meas.*, **2019**, DOI: 10.1109/TIM.2019.2900883. (IF: 5.332)
11. **Meher, N.;** Iyer, P. K.* Functional Group Engineering in Naphthalimides: A Conceptual Insight to Fine-Tune the Supramolecular Self-Assembly and Condensed State Luminescence. *Nanoscale*, **2019**, *11*, 13233-13242. (IF: 8.307)
12. Narasimhan. R. A.; **Meher, N.;** Barman, D.; Iyer P. K.* Self-Assembled Naphthalimide Nanoparticles for High Performance Non-Volatile Resistive Random Access (ReRAM) Device: A New Approach Towards an All-Organic Two Terminal Resistive Memory Device. *ACS Appl. Electron. Mater.*, **2019**, *1*, 2437-2444. (IF: 4.494)
13. Khatun, N.; Tanwar, A. S.; **Meher, N.;** Iyer, P. K.* An Unprecedented Blueshifted Naphthalimide AIEEgen for Ultrasensitive Detection of 4-Nitroaniline in Water via “Receptor-Free” IFE Mechanism. *Chem. Asian J.*, **2019**, *14*, 4725 –4731. (IF: 4.839)
14. Tanwar, A. S.; **Meher, N.;** Adil, L.R.; Iyer, P. K.* Stepwise Elucidation of Fluorescence Based Sensing Mechanisms Considering Picric Acid as a Model Analyte. *Analyst*, **2020**, *145*, 4753-4767. (IF: 5.227)
15. **Meher, N.;** Bitkar, A.; Barman, D.; Ghosh, S. S.; Iyer, P. K.* A conformational tweak for enhanced cellular internalization, photobleaching resistance and prolonged imaging efficacy. *Chem. Commun.*, **2020**, *56*, 14861-14864. (IF: 6.065)
16. Khatun, N.; Dey, A.; **Meher, N.;** Iyer, P. K.* Long alkyl chain induced OFET characteristic with low threshold voltage in an n-type perylene monoimide semiconductor. *ACS Appl. Electron. Mater.*, **2021**, *3* (8), 3575-3587. (IF: 4.494)
17. **Meher, N.;** Seo, K.; Wang, S.; Bidkar, A. P.; Fogarty, M.; Dhrona, S.; Huang, X.; Tang, R.; Blaha, C.; Evans, M. J.; Raleigh, D. R.; Jun, Y.-W.; VanBrocklin, H. F.; Desai, T. A.; Wilson, D. M.; Ozawa, T.; Flavell, R. R.* Synthesis and Preliminary Biological Assessment of Carborane-Loaded Theranostic Nanoparticles to Target Prostate-Specific Membrane Antigen. *ACS Appl. Mater. Interfaces*, **2021**, *13*(46), 54739–54752. (IF: 10.383)

18. **Meher, N.**; Barman, D.; Paroi, R.; Iyer, P. K.*Recent development of the fluorescence-based detection of volatile organic compounds: a mechanistic overview. *J. Mater. Chem. C*, **2022**, *10*, 10224-10254. (IF: 8.067)
19. Paroi, R.; **Meher, N.**; Iyer, P. K.* Discriminative light-up detection of volatile chlorinated solvents and dual-phase encrypted security ink. *Mater. Adv.*, **2022**, *3*, 5980-5986. (IF: 5.0)
20. **Meher, N.**; Ashley, G. W.; Bidkar, A. P.; Dhrona, S.; Fong, C.; Fontaine, s. D.; Vera, D. R. B.; Wilson, D. M.; Seo, Y.; Santi, D. V.; VanBrocklin, H. F.; Flavell, R. R.* Prostate-Specific Membrane Antigen Targeted Deep-Tumor Penetration of Polymer Nanocarriers. *ACS Appl. Mater. Interfaces*, **2022**, *14*, 45, 50569–50582. (IF: 10.383)
21. Bidkar, A. P.; Wang, S.; Bobba, K. N.; Chan, E.; Bidlingmaier, S.; Egusa, E.; Peter, R.; Ali, U.; **Meher, N.**; Anju, A.; Dhrona, S.; Dasari, C.; Beckford-Vera, D.; Su, Y.; Tang, R.; He, J.; Wilson, D. M.; Aggarwal, R.; VanBrocklin, H. F.; Seo, Y.; Chou, J.; Liu, B.; Flavell, R. R.* Treatment of prostate cancer with CD46 targeted ²²⁵Ac alpha particle radioimmunotherapy. *Clin. Cancer Res.*, **2023**, *29*, 10, 1916–1928. (IF: 13.801)
22. **Meher, N.**; VanBrocklin, H. F.; Wilson, D. M.; Flavell, R. R.* PSMA-Targeted Nanotheranostics for Imaging and Radiotherapy of Prostate Cancer. *Pharmaceuticals*, **2023**, *16*, 315. (IF: 5.215)
23. Bobba, K. N.; Bidkar, A. P.; **Meher, N.**; Fong, C.; Anju, A.; Dhrona, S.; Sorlin, A.; Bidlingmaier, S.; Shuere, B.; He, J.; Wilson, D. M.; Liu, B.; Seo, Y.; VanBrocklin, H. F.; Flavell, R. R.* Cerium-134/ Lanthanum-134: Evaluation of in situ generated lanthanum-134 as a PET imaging surrogate for Actinium-225 alpha radiotherapeutics. *J. Nucl. Med.*, **2023**, *64*, 7, 265355. (IF: 10.057)

BOOK CHAPTERS

1. **Meher, N.**; Iyer, P. K. Design and Development of Naphthalimide Based Luminogens. In Handbook of Aggregation-Induced Emission. 1st Edition, *John Wiley & Sons*, 15 April 2022.
2. **Meher, N.**; Iyer, P. K. Smart Luminogens for the Detection of Organic Volatile Contaminants. In Handbook of Aggregation-Induced Emission. 1st Edition, *John Wiley & Sons*, 15 April 2022.

PATENTS GRANTED AND FILED

1. **Meher, N.**; Iyer, P. K. (18/07/2018), Spontaneously Self-Assembled Nanosheets for the Detection of Organic Volatile Contaminants in Water, Ref No. 201831026896, App. Number: TEMP/E-1/29385/2018-KOL. **IP INDIA Patent No. 434268**, Date of Grant: 09/06/2023
2. **Meher, N.**; Iyer, P. K. (08/05/2018), Hydrazine Detector Device Comprising of Fluorescent Organic Molecular Probe, Ref. No 201831017337, App. Number: TEMP/E-1/18338/2018-KOL. (Submitted)
3. **Meher, N.**; Iyer, P. K. (25/05/2019), Functional Group Engineering in Naphthalimides to Fine-Tune the Supramolecular Self-Assembly and Condensed State Luminescence. Ref No. 201931020811, App. Number: TEMP/E-1/21902/2019-KOL. (Submitted)
4. Flavell, R. R.; VanBrocklin, H. F.; Ashley, G. W.; Santi, D. V.; **Meher, N.** (30/08/2022) Prostate-Specific Membrane Antigen Targeted Deep-Tumor Penetration of Polymer Nanodrugs and Methods of Use Thereof. UC Case No. SF2022-152, MLB Ref.: 061818-5528-PR. (Submitted)

SCHOLAR INFORMATION

Google Scholar Link: <https://scholar.google.co.in/citations?hl=en&user=w0lupa8AAAAJ>

Researchgate Link: https://www.researchgate.net/profile/Niranjan_Meher

Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=57189592376>

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GRANTS

1. PSMA-Targeted Molecular Probes for Combined Photodynamic and Photothermal Therapy of Prostate Cancer. Department of Science and Technology, 18/07/2023-17/07/2028, Project amount: 35,00,000.00 INR (**Principal Investigator**)
2. Development of Carborane-Polymer Nanoparticle Based Prostate-Specific Membrane Antigen Theranostic Agents for the Imaging and Treatment of Prostate Cancer Using Positron Emission Tomography and Boron Neutron Capture Therapy. Department of Radiology & Biomedical Imaging Pilot Grant, UCSF, 1/6/2020-31/5/2021, Project amount: 5,000.00 USD (**Principal Investigator**)
3. Prostate Specific Membrane Antigen Targeted [¹⁷⁷Lu] Labeled Nanomedicines to Treat Prostate Cancer. Helen Diller Family Comprehensive Cancer Center, UCSF, 01/04/2022-31/03/2023, Project amount: 50,000.00 USD (**Co-investigator**)

CONFERENCES & WORKSHOPS

1. Attended the **National Conference on Recent Advances in Cancer Biology and Therapeutics** held on December 5, 2014, organized by the Department of Biotechnology, Indian Institute of Technology Guwahati.
2. Attended the **4th International Conference on Advance Nanomaterials and Nanotechnology** held during December 08-11, 2015, organized by the Centre for Nanotechnology, Indian Institute of Technology Guwahati.
3. Attended the **2nd National Workshop on MEMS/NEMS and Theranostic Devices** held during March 21-22, 2016, organized by the Centre of Excellence in Nanoelectronics and Theranostic Devices under the aegis of Centre for Nanotechnology, Indian Institute of Technology Guwahati.
4. Presented **poster** at the **National Conference on Frontiers in Chemical Sciences (FICS)-2016**, during December 08-10, 2016, organized by the Department of Chemistry, Indian Institute of Technology Guwahati.
5. Presented **poster** at the **International Conference on Functional Materials (ICFM)-2016**, December 12-14, 2016, organized by the Material Science Centre, Indian Institute of Technology Kharagpur.
6. Attended the full agenda of **ACS on Campus** at IIT Guwahati on January 16, 2017.
7. Presented **poster** at the **20th CRSI National Symposiums in Chemistry (CRSI-NSC)-2017**, February 02-05, 2017, organized by Gauhati University, Guwahati.
8. Presented **poster** in the **Newton Bhabha Researcher Links Workshop** held during December 14-16, 2017, organized by IISER Kolkata.
9. Presented **poster** at the **5th International Conference on Advance Nanomaterials and Nanotechnology** held during December 18-21, 2017, organized by the Centre for Nanotechnology, Indian Institute of Technology Guwahati.
10. Presented **poster** in the **Young Scientists' Colloquium-2018, Materials Research Society of India (MRSI), Kolkata Chapter** held on September 20, 2018, organized by Indian Association for the Cultivation of Science (IACS), Kolkata.
11. Delivered an **oral talk** at the **National Conference on Frontiers in Chemical Sciences (FICS)-2018**, during December 06-08, 2018, organized by the Department of Chemistry, Indian Institute of Technology Guwahati.
12. Presented **poster** in the **5th National Workshop on MEMS/NEMS and Theranostic Devices** held on February 21-23, 2019, organized by Centre of Excellence in Nanoelectronics and Theranostic Devices under the aegis of Centre for Nanotechnology, Indian Institute of Technology Guwahati.
13. Presented **poster** in the **Research Conclave** organized by the Indian Institute of Technology Guwahati from 14-17th March 2019.
14. Presented **poster** at the **14th International Symposium on Functional π -Electron Systems (F π 14)** held at Humboldt University in Berlin, Germany, from 2nd to 7th June 2019.
15. Presented **poster** in the **Precision Imaging of Cancer and Therapy (PICT) 4th Annual Retreat** held at UCSF Comprehensive Cancer Center, 1450 3rd St, HD-160, San Francisco, CA, USA on 26th February 2020.
16. Delivered a **power pitch** at the **17th Annual Imaging Research Symposium** held virtually at the Department of Radiology, UCSF, San Francisco, CA, USA, on 14th October 2020.
17. Delivered a **power pitch** in the **Precision Imaging of Cancer and Therapy (PICT) 5th Annual Retreat** held virtually at UCSF San Francisco, CA, USA, on 25th February 2021.
18. Presented **poster** at the **World Molecular Imaging Congress (WMIC) conference** held virtually on 5-8 October 2021.

19. Delivered a **power pitch** in the **18th Annual Imaging Research Symposium** held virtually at the Department of Radiology, UCSF, San Francisco, CA, USA, on 3rd November 2021.
20. Delivered a **power pitch** at the **UCSF Radiology Imaging Research Symposium** held at Asilomar Conference Ground, Pacific Grove, CA, USA, on 1-3 May 2022.
21. Presented a **poster** at the **UCSF Radiology Imaging Research Symposium** held at Asilomar Conference Ground, Pacific Grove, CA, USA, on 1-3 May 2022.
22. Presented **poster** at the **World Molecular Imaging Congress (WMIC) conference** held in Miami, Florida, USA on September 28-October 1, 2022.

AWARDS AND ACHIEVEMENTS

1. Secured 2nd Position in Sambalpur University in Chemistry Hons. (2012)
2. Received Post-Graduate Merit Scholarship from University undergraduate rank holders by University Grand Commission in 2012
3. Received scholarship from Institute of Mathematics & Application (IMA), ODISHA, in 2013
4. Qualified Graduate Aptitude Test in Engineering (GATE) in 2014
5. Qualified CSIR NET for the award of Junior Research Fellowship (JRF) and Eligibility for Lectureship (LS) in 2014
6. Received BEST POSTER Presentation award in the 20th CRSI National Symposiums in Chemistry (CRSI-NSC)-2017, February 02-05, 2017, organized by Gauhati University, Guwahati.
7. Received BEST POSTER Presentation award in the Newton Bhabha Researcher Links Workshop held during December 14-16, 2017, organized by IISER Kolkata.
8. Received BEST ORAL Presentation award at the National Conference on Frontiers in Chemical Sciences (FICS)-2018, during December 06-08, 2018, organized by the Department of Chemistry, Indian Institute of Technology Guwahati.
9. Received BEST POSTER Presentation award in the 5th National Workshop on MEMS/NEMS and Theranostic Devices held on February 21-23, 2019, organized by the Centre of Excellence in Nanoelectronics and Theranostic Devices under the aegis of Centre for Nanotechnology, Indian Institute of Technology Guwahati.
10. Received Travel Grant from the Science and Engineering Research Board (SERB), Govt of India, for presenting a paper at the 14th International Symposium on Functional π -Electron Systems (F π 14) held at Humboldt University in Berlin, Germany, from 2nd to 7th June 2019.
11. Received the DST INSPIRE Faculty Fellowship from the Department of Science and Technology (DST) for the 2022 call.

Lucknow
Dt: 02/08/2023

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